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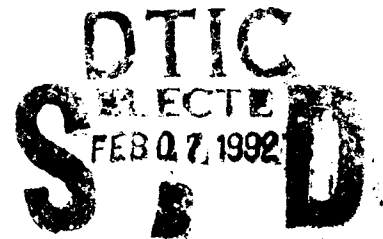
EVALUATIVE ARCHEOLOGICAL
INVESTIGATIONS AT FOUR
SITES ALONG THE RIGHT
BANK OF LAKE FRANCIS CASE,
LYMAN COUNTY, SOUTH DAKOTA

by

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Prepared For

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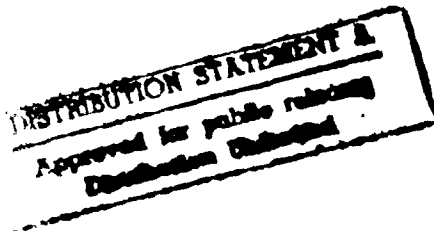
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ABSTRACT

In July of 1988, Larson-Tibesar Associates, Inc. conducted archeological investigations at 39LM26, 39LM27, 39LM31 and 39LM204 in order to assess their eligibility for nomination to the National Register of Historic Places. These sites are located on the west bank of Lake Francis Case in Lyman County, South Dakota. The work was conducted under a contractual agreement between the United States Army, Omaha District Corps of Engineers and Larson-Tibesar Associates, Inc. (DACW4588MO415). Investigations included a literature search, mapping, surface collections and test excavations. Sites 39LM26, 39LM31 and 39LM204 are believed to be eligible for nomination to the National Register of Historic Places. Site 39LM27 is not believed to be eligible for nomination.

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CHAPTER ONE

INTRODUCTION AND RESEARCH ORIENTATION

Dori M. Penny and Thomas K. Larson

During the month of July 1988 evaluative archeological investigations were conducted at four sites, 39LM26, 39LM27, 39LM31 and 39LM204, located along the right (west) bank of Lake Francis Case (Figure 1). The purpose of these investigations was to gather sufficient information in order to determine the eligibility of these sites for nomination to the National Register of Historic Places. This information was gathered using a series of standard investigative procedures conducted at each site as well as several site specific data collection techniques.

The work was conducted under a contractual agreement between the United States Army Corps of Engineers, Omaha District (DACW4588M0415) and Larson-Tibesar Associates. Field personnel included Jeff Dahoda, Ross G. Hilman, Thomas K. Larson (Principal Investigator) and Dori M. Penny. The work performed was intended to provide compliance with all or pertinent segments of the following federal and state documents:

1. Antiquities Act of 1906, 43 CFR Part 3.
2. The Reservoir Salvage Act of 1960 (Public Law 86-523) as amended by Public Law 93-291.
3. The National Historic Preservation Act of 1966 (Public Law 80-665) as amended by Public Laws 91-243, 93-54, 94-458 and 96-515.
4. National Environmental Policy Act of 1969 (Public Law 91-190) as amended by Public Law 94-52).
5. Historic and Archeological Preservation Act of 1974.
6. The American Indian Religious Freedom Act.
7. Archaeological Resources Protection Act of 1979, 36 CFR Part 229.
8. Archaeological Exploration Laws of South Dakota (SDCL 1-20).

Chapters Two and Three of this report present summaries of the natural and cultural setting of the study area. Chapter Four presents the methods used in conducting this study. Chapters Five through Eight describe the investigations carried out and the findings for each of the four sites. Chapter Nine is a summary of results. Detailed information not appropriate for presentation in the body of this report is incorporated as appendices. Appendix A is a listing of all of the

collected artifacts. Appendix B consists of the forms completed during fieldwork. Appendix C contains the photo logs for all field photographs taken at the four sites. Appendix D is a report on the results from flotation analysis.

Previous investigations have been conducted at all of the four sites included in the 1988 Larson-Tibesar Associates' study. These investigations included initial recordation, collection of cultural materials from the site surface and/or beach area adjacent to the site and excavation. A summary of this information is provided for each site in the site specific chapters.

In assessing the National Register status of the sites investigated, Criterion D of 36 CFR 60.6 was used to determine whether or not each of the sites contain information which could be used to further our understanding of the history and prehistory of the area.

To be considered for listing under Criterion D, a property must have yielded or must have the potential to yield important information about some aspect of prehistory or history, including events, processes, institutions, design, construction, settlement, migration, ideals, beliefs, lifeways, and other facets of the development or maintenance of cultural systems. Criterion D allows consideration of both properties that have yielded important information and that have the capacity to yield additional information and properties that have not yet yielded important information but are likely to do so. Any consideration of a property's eligibility under Criterion D must address (1) whether the property has information to contribute to our understanding of history or prehistory and (2) whether that information is important [United States Department of Interior, National Park Service (U.S.D.I, N.P.S.)1982:28].

The importance of that information was assessed in terms of whether such information could be used to address current and specific research questions. While no final South Dakota State Comprehensive Plan is available, several regional research questions and hypotheses (e.g., Buechler 1984; Tibesar et al. 1986; and Winham and Lueck 1984) have been proposed for the Big Bend study unit. In addition, a number of research topics have been proposed for individual sites (e.g., Winham and Lueck 1984; Larson-Tibesar Associates 1988).

Another factor used in assessing significance is the concept of integrity.

The principal test to establish whether a property retains integrity is to ask whether or not the property still retains the identity or character for which it is important. For a property to be important for its information potential, it is necessary to determine whether the property retains enough of its original materials and their spatial relationships to be capable of yielding valuable data. . . .A buried site eligible for its

information potential has integrity if the deposits retain enough of their original content and spatial relationships to be capable of yielding valuable data [U.S.D.I., N.P.S. 1982:39-40].

Following these guidelines, a site is considered significant if it contains information content in the form of features, artifacts and environmental data which retain a high degree of their original content and spatial relationships. In addition to integrity of deposits, further investigation of that site must also have the potential to yield important scientific information which could be used to address one or, in the majority of cases, several timely and specific research questions.

At 39LM26, 39LM27, 39LM31 and 39LM204, three research areas based on these guidelines were thought to be particularly pertinent to determining eligibility. These areas are:

Do the sites contain information necessary to determine the age, extent and content of their various cultural components?

What is the current extent of each site and what was its extent at the times of previous investigations?

Do the sites provide information on culture change and adaptation through time?

With these basic concepts in mind, a specific research orientation was developed for the four sites to be studied (Larson-Tibesar Associates 1988: 4-5). These topics are also consistent with the *Management Plan for Archaeological Resources in South Dakota* (Buechler 1984) (see later chapters of this report for specifics). The general research domains proposed, the hypotheses related to them, and the test implications for each hypothesis are given below. Specific methods for data collection and analysis are presented in Chapter Four.

Research Domain 1: Site Function, Age and Cultural Affiliation

Hypothesis 1.1: These four sites contain the information necessary to determine the age, extent and content of their various cultural components.

Test Implication 1.1.1: It will be necessary to conduct systematic surface collections, test excavations and site mapping to determine site extent and establish the locations of cultural or temporal diagnostic artifacts and/or radiocarbon datable materials in order to date and spatially isolate the various components at the four sites.

Test Implication 1.1.2: It will be necessary to conduct surface collections and infield analyses in order to document the frequencies and types of cultural materials present at various

components of the sites and allow intrasite and intersite comparisons of site function, subsistence and settlement practices or lithic resource utilization.

Hypothesis 1.2: The existing information indicates that cultural materials related to Woodland, Extended and Post-Contact Coalescent and Historic periods will be present.

Test Implication 1.2.1: It will be necessary to locate diagnostic cultural materials (mainly rim sherds and various historic items) which are indicative of these occupations.

Research Domain 2: Site Extent

Hypothesis 2.1: Existing published and unpublished reports and other documents contain information relevant to establishing site extent.

Test Implication 2.1.1: All four sites are listed as earthlodge villages which should be visible on aerial photographs. In order to determine site extent of the villages, it will be necessary to examine early 1938 Soil Conservation Service aerial photographs and compare them to more current photographs and establish points of reference or landmarks for subsequent field investigations.

Test Implication 2.1.2: Previous investigations and their reports contain maps showing locations of cultural materials and their distributions across the site area.

Research Domain 3: Culture Change and Adaptation

Hypothesis 3.1. Existing information (Lehmer 1971; Winham and Lueck 1984; Johnston 1982) indicate the presence of a continuum of cultural components ranging from the Extended Coalescent into the Historic period.

Test Implication 3.1.1: Cultural materials present at the four sites provide a nearly unbroken record of occupation within a small geographic area of the Middle Missouri subarea. Analysis of these cultural materials can provide a framework in which to measure changes in cultural adaptation to this geographic area through time.

Research Domain 4: Site Significance

Hypothesis 4.1: The assessments of site significance will be developed with relation to (a) the research interests of the project investigators (see above), (b) regional and topical research questions which are appropriate to the study area (e.g., Johnston 1982; Buechler 1984; Winham and Lueck 1984) and (c) the level of integrity or amount of significant cultural deposits remaining at the site.

Test Implication 4.1.1: During the recording, analysis and description of the four sites, it will be necessary to gather, in a systematic fashion at each site, data which relate to research domains 1 through 3. This is the only means of developing a proper context for the evaluation of each site's significance.

While these research questions are somewhat rudimentary, they are believed reasonable for the level of testing undertaken at the site (from 3 to 20 m² of test excavations per site). Studies relating to cultural processes and intra/intersite patterning are believed best left to more detailed data recovery or research programs.

CHAPTER TWO ENVIRONMENTAL SETTING

William L. Tibesar, Keith H. Dueholm and Dori M. Penny

Physiography

The Missouri Trench bisects numerous east trending drainages which were diverted to the south by glacial ice (Todd 1894). The sharp slope of the trench, the steep sided ravines or "breaks" (Flint 1955), and the youthful appearance of the glacial sediments exposed in the terrace profiles suggest post Illinoian age for diversion (Flint 1955; McFaul 1985).

Climate

The general climate is characterized by extremes of summer heat and winter cold, with rapid fluctuations common. Summer highs reach 40 degrees C (104 degrees Farenheit) or higher, while winter lows of -12 degrees C (10 degrees Farenheit) are frequent. Cold stretches may last longer than a week (Van Bruggen 1976). The average growing season generally extends from the end of May to early October, or about 126 days (Archer and Tieszen 1979; Van Bruggen 1976). Average annual precipitation is approximately 40 to 46 cm in Lyman County. More than 50 percent of the precipitation falls during the growing season (Archer and Tieszen 1979). Snowfall varies from year to year, but winds usually cause drifts so that the insulating effects of snow cover are largely absent in level or rolling uplands. Frost usually penetrates the soil 1.2 m or more (Van Bruggen 1976).

Wind is mostly from the north or northwest during the winter, and from the south or southeast in summer. Annual average wind speed 17.7 km per hour (Van Bruggen 1976).

Soils

The general mapping unit for the project area is the Sansarc-Opal (Schumacher 1987:40). Soils within this mapping unit include associations of Udic Chromusterts, Leptic Natrustolls and Typic Argiustolls (Schumacher 1987:159). Bullcreek, Promise/Hurley, Promise and Fairlo soils make up portions of this association (Schumacher 1987:Map Sheet 86). These soils are generally described as "well drained, strongly sloping to steep soils. . .in areas on uplands where drainageways are deeply entrenched" (Shumacher 1987:40). The Sansarc, Opal, Bullcreek, and Promise soils are clayey, while the Promise/Hurley and Fairlo soils are silt loams.

Past and Present Land Uses

Land within the Sansarc-Opal mapping unit supports native grasses and is used extensively for grazing and hay (Schumacher 1987:8,40). Ranching was the primary historic Euroamerican use of this area. Historic Native American communities and individual allotments were also present in this general area (see Chapter Three of this report).

Vegetation

This region of South Dakota is within the mixed prairie (*Agropyron-Stipa*) community. Prior to the inundation of Lake Francis Case, the area would have been adjacent to the floodplain forest (*Populus-Salix-Ulmus*) community. Present plant communities along Lake Francis Case were identified by Archer and Tieszen (1979). Data from that study have been utilized in the following synthesis. In addition, a brief summary of potential plant communities on the Missouri River floodplain and lower terraces, prior to inundation, is given.

The mixed-grass prairie community represents a combination of Archer and Tieszen's (1979) *Agropyron-Stipa* lowlands, *Agropyron-Stipa* uplands, *Bouteloua gracilis* - *Yucca*, and *Bouteloua curtipendula*-*Yucca* communities. It occurs throughout the region, mostly on flat or rolling uplands (slopes less than 10 degrees) on medium-textured soils, but also on colluvial lowlands, in broad, shallow ravines or drainages, and occasionally on steep, rocky slopes. It is dominated by a variety of mid-grasses, often forming an overstory of short grasses or sedges. The most common mid-grasses with typical range of present cover (from Archer and Tieszen 1979) are western wheatgrass (*Agropyron smithii*, 40 to 70 percent), green needlegrass (*Stipa viridula*, 10 to 50 percent), side-oats grama (*Bouteloua curtipendula*, 3 to 15 percent), needle-and-thread grass (*S. comata*, 5 to 26 percent), and threeawn (*Aristida longiseta*) and june grass (*Koeleria pyramidata*), both with less than three percent.

Most frequent short grasses or graminoids are blue grama (*B. gracilis*, 6 to 20 percent), buffalograss (*Buchloe dactyloides*, 2 to 6 percent), and various sedges, especially threadleaf sedge (*Carex filifolia*, 3 to 25 percent). In drier topographic positions, or where past grazing has tended to eliminate the mid-grasses, the short grasses tend to be more prevalent. In moister situations, such as on north facing slopes or in or near drainages, such tall grass prairie species as big bluestem (*Andropogon gerardi*, 0 to 6 percent), little bluestem (*A. scoparius*, 0 to 5 percent), porcupine grass (*S. spartea*, 4 to 20 percent), or prairie cordgrass (*Spartina pectinata*, 0 to 5 percent) may form a component of this community. Changes in soil texture may also affect the relative contribution of various grasses, with, for example, sandier sites containing greater proportions of needle-and-thread grass than in sites with finer textured soils.

Shrubs and trees are present in the drainages. Shrubs and trees include cottonwood (*Populus deltoides*), black willow (*Salix nigra*), American elm (*Ulmus americana*), and scrub oak (*Quercus* spp.). Buckbrush

(*Symphoricarpos occidentalis*) occurs in shallow drainages and depressions, often in dense patches. Juniper or eastern red cedar (*Juniperus virginiana*) may occur on steep, usually north facing slopes. Yucca (*Yucca glauca*), usually in association with a ground cover provided by *Bouteloua* spp., currant (*Ribes aureum*), buffalo berry (*Shepherdia argentea*), wild grape (*Vitis vulpina*), and wild rose (*Rosa woodsii*) are also present.

A variety of forbs are found in the mixed-grass prairie. Many are most prevalent in the early or middle growing season and often attain greater frequency and coverage on sloping, rocky terrain, although seldom exceeding four or five percent cover values. Some of the more frequent are asters (*Aster* spp.), scarlet globe mallow (*Sphaeralcea coccinea*), prairie coneflower (*Ratibida columnifera*), sand ragweed (*Ambrosia psilostachya*), silver scurfpea (*Psoralea argophylla*), prickly pears (*Opuntia* spp., especially *O. humifusa*), ground plum (*Astragalus crassicaarpus*), and blazing star (*Liatris punctata*).

Inundation of alluvial terraces along the Missouri River has eliminated the original communities in these areas. However, potential plant communities, in addition to floodplain forests, may have included marshes, wet meadows, and sand dunes and/or sandbars (Johnson et al. 1976).

A marsh community would have been present in old channels of the river and along tributary streams in water generally less than two meters deep. It would have been dominated by tall emergent hydrophytes, especially cattails (*Typha* spp.), but also giant reed (*Phragmites australis*), bulrush (*Scirpus* spp.) and reed canarygrass (*Phalaris arundinacea*). Infrequent forbs may have included water plantain (*Alisma* spp.) and arrowleaf (*Sagittaria* spp.).

Where water was too deep for the marsh community, a lacustrine community consisting of submerged aquatics would be expected. Pondweed (*Potamogeton* spp.), coontail (*Ceratophyllum demersum*), horned poolmat (*Zannichellia palustris*), and various algae would have been present.

The upland side of the marsh would have supported a wet meadow community. The dense vegetative cover of this community was most likely dominated by tall graminoids such as sedges (*Carex* sp.), spikerushes (*Eleocharis* spp.), reedgrass (*Calamagrostis inexpansa*, or others), mannagrass (*Glyceria* spp.), reed canarygrass, and prairie cordgrass. Tall forbs such as iris (*Iris missouriensis*), goldenrods (*Solidago* spp.), sunflowers (*Helianthus* spp.), vervains (*Verbena* spp.), dock (*Rumex* spp.), and smaller plants such as field mint (*Mentha arvensis*) and buttercups (*Ranunculus* spp.) would have been characteristic.

Near the main river channel, sand bars or active sand dunes may have been present. Sparse vegetation, including scattered plants of sedges or horsetails (*Equisetum* spp.), would have characterized this sand dune community. Stabilized largely by saplings of cottonwood (*Populus deltoides*) and various willows (*Salix* spp.), sandbars may also have contained plants such as bulrush and rush (*Juncus* spp.) (Johnson et al. 1976; Keammerer et al. 1975). Individual occurrences of this

community would be expected to be small in size, but may have occurred frequently along the river.

The largest portions of the alluvial terraces would have supported floodplain forests consisting of a variety of trees, shrubs and woody vines, with normally little herbaceous vegetation. Major trees included cottonwood, peachleaf willow (*Salix amygdaloides*), green ash, box elder, American elm, bur oak, and possibly hackberry. Common shrubs may have been chokecherry, wild plum, dogwood, juneberry and buffaloberry. Vines may have included poison ivy (*Toxicodendron rydbergii*), woodbine (*Parthenocissus vitacea*), grapes, bittersweet (*Celastrus scandens*), virgin's bower (*Clematis ligusticifolia*), moonseed (*Menispermum* spp.) and carrion flower (*Smilax herbacea*).

Cottonwood forest generally would occur on sandy soil near the river. Young forests contain many small trees, mostly cottonwood, while older forests would have tall, widely spaced trees with numerous tall shrubs and saplings as listed above (Johnson et al. 1976). Herbs could include field mint, bergamot (*Monarda fistulosa*), vetch (*Vicia americana*), wild licorice (*Glycyrrhiza lepidota*), sunflowers and vervains. It is possible that some of the older cottonwood forests with widely spaced trees may have had a savannah aspect, with a number of prairie grasses present (Keammerer et al. 1975). Big bluestem, switchgrass and other grasses, as well as forbs such as Jerusalem artichoke (*Helianthus tuberosus*), fragrant giant hyssop (*Agastache foeniculum*), blazing stars (*Liatris* spp.) and others were likely to occur.

The mesic forest community would have occurred on silty or clay soils, generally on the higher of the two alluvial terraces. Overstory would have been provided by green ash, box elder, American elm, bur oak and possibly hackberry. It may have had a relatively closed canopy, which would have resulted in a diminished shrub and sapling layer and sparser herbaceous vegetation. Woody vines, as listed above, may have been common. Relatively mesophytic herbs such as sweet cicely (*Osmorhiza longistylis*), violets (e.g., *Viola canadensis*), or Indian hemp (*Apocynum sibiricum*) may have been present (Johnson et al. 1976, Keammerer et al. 1975). Such a forest may have extended up the major tributaries and would seem to resemble the *Fraxinus-Juniperus* community of Archer and Tieszen (1979).

Of the plants listed above, 65 were used as a resource by native populations residing in present day South Dakota (Gilmore 1977; Rogers 1980a, 1980b). Apart from the use of wood in construction, some of the more important plants used may have included: berries of *Shepherdia*, *Prunus*, *Ribes*, *Amelanchier*, *Vitis*; seeds of *Rumex*; roots, tubers or other underground organs of *Typha* spp., *Sagittaria latifolia*; greens or vegetables from *Sphaeralcea*, *Astragalus crassicaarpus*; and fruits of *Vicia americana*. Other plants were used historically for cordage, weaving, beverages, seasoning, medicinal and ceremonial purposes (Rogers 1980a, 1980b).

CHAPTER THREE CULTURAL SETTING

Thomas K. Larson and Dori M. Penny

Introduction

The Middle Missouri subarea may be defined as "the section of the Missouri Valley from the mouth of the White River in South Dakota to the North Dakota-Montana border" (Lehmer 1971:28). The Middle Missouri subarea is one of the five subareas of the Plains recognized by Lehmer (1971:28). The Plains area encompasses the physiographic region of the United States and Canada known as the Great Plains.

Within the Middle Missouri subarea, a number of regions are recognized. The current project area is within the Big Bend region. The Big Bend region extends north from the area of the White River affected by Lake Francis Case to an area north of the mouth of the Bad River (Lehmer 1971:29; Buechler 1984:62).

This section of the report is intended to provide a brief summary of the Woodland, Plains Village and Historic occupations of the area as manifested by known archeological remains and to provide a background for the discussion of 39LM26, 39LM27, 39LM31 and 39LM204. Information for this section is derived and adopted primarily from larger, regional chronologies such as Wedel (1961), Lehmer (1971) and Zimmerman (1985).

Woodland

Several of the sites included within the present investigation and in the Lake Francis Case vicinity are associated with the Plains Woodland tradition. Previous investigations at 39LM26 and 39LM27 noted Woodland ceramics on the beach (Kay 1973:9). Kay (1973:9) also reported Woodland ceramics on the beach at 39LM24, a location near 39LM26. The lateral extent of Woodland ceramics along the beach at these three locations was estimated to be "contiguous for approximately one mile" (Kay 1973:9). Kay characterizes their locations as "prominent alluvial terraces. . .dissected by small streams, on the west bank of the Missouri River."

Other evidence of the Plains Woodland tradition consists primarily of burial mounds and a few campsites. Olson and Zimmerman (1979:17) report that:

Between 500 B.C. and the time of Christ, the influence of Eastern Woodlands peoples began to appear in the Missouri trench forming a cultural tradition known as the Plains

Woodland. With this tradition came the introduction of mound construction, ceramics, and horticulture into South Dakota. . . . While the mounds have been the most prominent feature of the Woodland tradition there are several examples of occupation sites which have been tested in the Fort Randall Reservoir. Noteable among these are the Arp Site tested by Gant (1967) and the Scalp Creek (39GR1) and Ellis Creek (39GR2) sites on the west bank reported on by Hurt (1952).

The Woodland tradition within this area is composed of the Valley phase and the later Loseke Creek phase. Valley phase is a subdivision of the Middle Woodland and Loseke Creek is a subdivision of the Late Woodland. Winham and Lueck (1984:39-40,42) characterize these phases as follows:

Valley phase subsistence suggests an emphasis on diffuse, riverine resources with bison being relatively unimportant (Kivett 1952a, 1970). Shellfish are abundantly represented and small to medium-sized game such as antelope or deer, water birds, turtles and rabbits were significant.

The proposed ceramic type associated with the Valley phase (focus), Valley Cord-roughened (Kivett 1949), is a thick concoidal vessel predominantly sand-tempered with exterior cord marking usually oriented vertically with less frequent oblique and horizontal applications. The rims are nearly vertical and flat, and decorative techniques include punctating, embossing, dentate, cord-wrapped stick impressing and incising.

Identifiable Valley materials in South Dakota include the Badger component of the Good Soldier site, component D of the LaRoche site (39ST9) (Hoffman 1968), the Hitchell site (39CH45) (Johnston 1967), Scalp Creek (39GR1) and Ellis Creek (39GR2) sites (Hurt 1952), and the Arp site (39BR101) (Gant 1967), all along the Missouri River (Nowak et al. 1982:25.15). Sites containing Valley Cord-roughened pottery are distributed "on the Plains at least from the border of Kansas, north through Nebraska, and then gradually following the immediate valley of the Missouri River from southeastern South Dakota, northwest North Dakota, and as far west as Havre, Montana" (Neuman 1975:84).

The Valley phase is probably contemporaneous with Kansas City Hopewell and Illinois Hopewell sites (O'Brien 1971). Kansas City Hopewell dates range approximately from A.D. 8 to A.D. 680 (Syms 1977:88).

The succeeding Late Woodland period represents horticulture, sedentary life, and increased complexity of social organization developing on the eastern periphery of the plains and spreading up major rivers and creeks. The Late Woodland period is represented in South Dakota by the Loseke

Creek phase and is identified at sites found exclusively in the Missouri River drainage and its tributaries, including the James and Big Sioux rivers in southeastern South Dakota and the Niobrara and Platte rivers in eastern Nebraska (see Ludwickson et al. 1981:127,130; Nowak et al. 1982:25.17).

The Loseke Creek phase is characterized by "cord-roughened pottery having single-line cord-impressed decorations on the rim, generally in horizontal rows but occasionally in alternate triangles or oblique lines over the horizontal rows" (Nowak et al. 1982:25.17-25.18). Vessels change from the concoidal form of the Middle Woodland to rounded vessels with pronounced flaring rims and distinct shoulders. Vessel walls tend to be thinner with smoothing over cord-roughening or simple stamping (Syms 1977:91; Ludwickson et al. 1981:132).

The Loseke Creek Late Woodland configuration first recognized by Kivett (1952a) at the Feye and Lawson sites in Nebraska, has been identified in South Dakota at the Arp site (Gant 1967), the Hitchell site (Johnston 1967), the Tabor site (Hurt 1961), the Gavins Point site (Brown 1968), the Scalp Creek and Ellis Creek sites (Hurt 1952), the Spawn Mound (Howard 1968) and the Split Creek Rock Mounds (Over and Meleen 1941). The ages of Loseke Creek phase Late Woodland sites are based primarily on four radiocarbon dates from the Arp site (Gant 1967) ranging from A.D. 420 to A.D. 810.

The amorphous Woodland occupation noted by Kay (1973) at 39LM24, 39LM26 and 39LM27 is not attributable to a particular phase at this time. However, a Besant projectile point was collected from Test Unit 1 at 39LM26 during the 1988 Larson-Tibesar investigations (see Chapter Five). Besant projectile points are markers of the Sonota complex (Neuman 1975:81-82). The Sonota complex dates to the Middle Woodland. Neuman (1975:96) states that Sonota complex sites were probably occupied

. . .by small groups of hunters and gatherers whose primary subsistence was oriented toward communal hunting of the buffalo. . . .such sites are characterized by layers of buffalo bone, stone projectile points, butchering and hide preparation tools, a lesser number of bone implements, and only rarely small quantities of pottery fragments. On the other hand, along the main trench of the Missouri River and smaller drainages in the eastern Dakotas, comparable artifacts are found in low, domed, burial mound groups and in campsites herein assigned to the Sonota Complex. In this eastern range the basic artifact inventories are amended by an increase in ceramics, along with a variety of specialized, regionally elaborate, and at times exotic stone, bone, shell, copper, vegetal, and pigmentary specimens, most of which are associated with the burial mound interments.

Other sites in the general area that are apparently associated with the Sonota complex are 39BF205 (Tibesara et al. 1986) and component D at the La Roche site (39ST9; Hoffman 1968).

Plains Village

The present project area encompasses an area of interaction between various cultural influences and manifestations which have been termed the Plains Village tradition. The Plains Village tradition is manifested by the presence of villages and varied ceramic wares with a fully developed horticultural subsistence supplemented by the procurement of other plants and animals. Lehmer (1971) divided the Plains Village in the Middle Missouri subarea into the Middle Missouri and Coalescent traditions. Lehmer (1971:33) further divided each of these into the following variants: Initial (A.D. 900-1400), Extended (A.D. 1100-1550) and Terminal Middle Missouri (A.D. 1550-1675) and Initial (A.D. 1400-1550), Extended (A.D. 1550-1675), Post-Contact (A.D. 1675-1780) and Disorganized Coalescent (A.D. 1780-1862). Winham and Lueck (1984:45) report that:

The Middle Missouri tradition is thought to have its base in populations who came from Minnesota and northwestern Iowa at ca. A.D. 900 and 1100 (Lehmer 1971:98,100). The Coalescent tradition represents influences from the Central Plains tradition which Lehmer (1971) associated with the westernmost part of Iowa, eastern and south-central Nebraska and in Kansas north of the Arkansas River drainage.

Differences between these variants are primarily based on earthlodge construction, presence or absence of fortifications and ceramic wares.

Initial Middle Missouri variant sites are distributed from the White to Cheyenne rivers. Sites of this variant occur along both banks of Lake Francis Case and include King (39LM55), Dinehart (39LM33) and Swanson (39BR16).

No Extended Middle Missouri variant sites are reported within the immediate area. Lack of Extended Middle Missouri sites may be the result of pressure and conflict with some later Initial Middle Missouri groups (see Lehmer 1971:100) or from the migration into the area of groups representing the Coalescent Tradition (e.g., Lass 1981).

The geographic distribution of Initial Coalescent variant sites from Crow Creek, north of Chamberlain, to just south of Pierre is essentially the same area, although somewhat reduced, as that originally occupied by the earlier Initial Middle Missouri sites. This area is north of the present study area.

During the time period from approximately A.D. 1550 to 1675, Coalescent groups of the Extended variant expanded to occupy nearly the entire South Dakota segment of the Middle Missouri subarea (Lehmer 1971:Figure 77). Lehmer (1971:117) attributed components at 39LM31 and 39LM204 to the Extended Coalescent.

The archeological distinctions between the Coalescent and Middle Missouri traditions became less defined after this period resulting in the lumping of all post A.D. 1675 villages into the Post-Contact Coalescent and later Disorganized Coalescent variants. Lehmer (1971:136) states that:

Ethnology and ethnohistory document some significant distinctions between the three tribal groups in the late 18th and early 19th centuries. The Arikara spoke a Caddoan dialect. The Mandan and Hidatsa languages were both Siouan, but they differed from each other to the point of mutual unintelligibility. . .

There were other differences in the nonmaterial culture of the 19th-century villagers. These, unfortunately, tend to be only dimly reflected in the materials with which the archeologist has to work. On the basis of the archeological record alone, the uniformities of Post-Contact Coalescent culture are much more apparent than the tribal differences.

The similarities which characterize the cultures of the late village tribes were undoubtedly the product of a convergence of the Middle Missouri Tradition and the earlier manifestations of the Coalescent Tradition. . . .Post-Contact Arikara culture was an outgrowth of the Extended Coalescent complex. But there were changes there too, especially in pottery and village plan. . .

Based on linguistic and ethnohistorical evidence it would seem that the Arikara were, at one time, a subdivision of the Pawnee (e.g., Dorsey 1904; Weltfish 1965). It has been postulated that the split between the Skidi Pawnee and the Arikara took place during the Extended Coalescent (e.g., Hoffman 1963).

A classification based upon the testimony of the Skidi would place the Skidi and the Arikara in one group, and the Chaui, Kitkehahki and Pitahauirat in another group. The three tribes last named speak a common dialect, which more nearly approximates that of the Skidi than does the tongue of the Arikara; but both Skidi and members of the other three bands have no difficulty in understanding the speech of the Arikara. The Skidi claim that the Arikara are Skidi, while, in turn, the Arikara look upon the Skidi as part of themselves (Dorsey 1904:xiii) [Grange 1968:143- 144].

This relationship is particularly important since archeological evidence indicates a close relationship between the Oacoma sites (39LM26, 39LM27), identified as Arikara, and the Wright site (25NC3) which is identified as Skidi Pawnee (Kivett 1958; Grange 1968:151-152).

Documented Post-Contact Coalescent village sites include the Talking Crow site (39BF3; Smith 1977), Sanitarium (39BR6; Lehmer 1971:Figure 82), 39BR4 (Kivett and Jensen 1976), and the Oacoma Sites

(39LM26 and 39LM27; Kivett 1958; see also this report).

Historic

As used in the following report, the Historic period includes the era of early exploration and fur trade followed by military campaigns, the establishment of the reservation system and Euroamerican settlement. Additional details concerning the historic occupation of the project area are described in Winham and Lueck (1984:53).

Explorations in the area generally date from the period 1742 to 1834 and were largely motivated by Euroamerican interest in the fur and buffalo hide resources, though a search for a sea to the west was also a principal motivation. Exploration began with the expedition of Pierre La Verendrye and his three sons in 1742.

Following the French, a series of Spanish expeditions spanned the period from approximately 1795 to 1804.

While technically the Upper Missouri belonged to France in this period, it was ruled by Spanish authorities while trading was aggressively pursued by the British. . . . In 1803 the United States purchased the Louisiana Territory and in 1804 Captains Meriwether Lewis and William Clark started the first U.S. sanctioned expedition into the territory [Winham and Lueck 1984:54].

By the time the Lewis and Clark Expedition arrived at this segment of the Missouri River, no occupied village sites were reported. The Lewis and Clark expedition camped in the area near 39LM26 and 39LM27 between September 14, 1804 and September 18, 1804 and again on August 28, 1806 (Moulton 1986:79). Their journal entries for these dates and the corresponding maps do not provide any indication that these sites were occupied or that they possessed obvious remnants of village life at this time (Moulton 1986:75-80).

Following the end of the Civil War, the area was subject to military activities designed to subdue or control the activities of Native Americans. In 1868 a subagency was established for the Lower Brule (Mattes 1949). This agency was moved in 1870 "apparently because of a hostile attitude of the Brule Sioux Indians towards its presence on the reservation. . ." (Winham and Lueck 1984:67). The Oacoma sites (39LM26 and 39LM27) were crossed by a footpath used to travel to and from the agency (see Chapters Five and Six).

Other historic settlement in this area is related to reservation allotment and Euroamerican settlement of the area. River Basin Surveys investigations (see Chapters Seven and Eight) reported evidence of historic settlement at both 39LM31 and 39LM204. A group of occupied buildings are illustrated to the north of 39LM204 on the 1891 General Land Office Plat. Some occupied buildings are shown within the presently recognized site area, but these buildings are widely

separated. Judging from the limited labeling of the plat, this settlement may have been Brule. If this is the case, it probably resembled the Deerfly site, a late nineteenth century Dakota occupation south of the White River (Lees 1985). At the Deerfly site, Lees (1985:119) was able to define an agency dependent economy with elements of the "strongly resilient and conservative Dakota culture based on older, nomadic patterns. . ." Subsequent Euroamerican occupation/use of at least portions of 39LM26, 39LM27 and 39LM204 is also apparent from the River Basin Surveys field forms and from the available maps.

CHAPTER FOUR FIELD AND LABORATORY TECHNIQUES

Dori M. Penny and Thomas K. Larson

Documents Search

Prior to initiating fieldwork, a documents search was conducted. The South Dakota Archaeological Research Center, Rapid City; Augustana College, Sioux Falls, South Dakota; U.S. Army Corps of Engineers, Omaha; and the National Park Service's Midwest Archeological Center, Lincoln, Nebraska were contacted. The purpose of this documents search was to obtain copies of the original Smithsonian Institution River Basin Survey site forms, South Dakota State Archaeological Survey forms, unpublished reports and any other information which might aid in the investigation. Several items, including the 1938 aerial photos, are no longer in existence. The 1986 Corps of Engineers aerial photos were examined. Details of the documents search and problems with missing documents for each site are discussed in the site specific chapters.

Site Mapping

The purpose of site mapping was to produce a map of the sites' surface topography and to record the location of observed cultural features. Site maps also include the location of test excavations, backhoe trenches and the shoreline. The waterline of Lake Francis Case was at approximately 414 m (1358 feet) above mean sea level at the time field work was conducted. This information was used during the project to assist in locating the test excavation units.

The site maps also provide information concerning site extent. Unless contradictory information was obtained from mapping or test excavations, site boundaries based on Augustana College's 1984 inventory were maintained.

All site mapping was accomplished through the use of a Leitz SET4 Electronic Total Station. Distances were recorded to the nearest .1 meter and elevations were recorded to the nearest .01 meter.

Site maps were generated using the Surfer mapping package. The Surfer program uses a nearest neighbor search method and the ten nearest data points to construct a regular matrix of elevation points. A cubic spline method was used to smooth the elevational contour lines.

Permanent site markers were established at each site for use as a reference point in future research. These site markers were constructed of two inch diameter aluminum dome top concrete/bench markers with the

site number stamped into the top surface. The markers were embedded into concrete. Their locations are identified on the site maps.

Excavations

The excavations at 39LM26, 39LM27 and 39LM204 were a series of four meter long backhoe trenches excavated in arbitrary 30 cm levels. Each of the backhoe trenches was divided into two meter segments in order to provide horizontal controls. In addition to the four meter long backhoe trenches excavated at 39LM204, an eight meter long unit was also excavated. The same horizontal and vertical controls were used for this unit as were used for the four meter long units. Depth was measured from the ground surface at the reference stake for each unit.

Mechanical excavation was chosen over hand excavation because of the size of the sites and the time and cost limitations.

Given the fact that the four sites range in size from 23,400 to 460,000 square meters, controlled mechanical excavation is more time and cost-efficient, has a higher probability to uncover significant and deeper cultural features and levels, and will provide a more reliable evaluation of the potential of each site for containing additional significant, buried cultural deposits [Larson-Tibesar Associates 1988:9].

As stated above, selection of areas for excavation was based on the findings from site mapping. Because of the character of the sites investigated, substantial lodge features should be expected at all of them. Had these features been visible on the ground or in aerial photos their locations would have been used in the selection of areas to test. This was not the case. The lack of surface depressions which mark lodge features has been noted by a number of authors (e.g., Gradwohl 1969; Ludwickson et al. 1981). This phenomenon has been attributed to site accretional processes and wind-blown sediment accumulation (Ludwickson et al. 1981:234). It would appear that one or both processes were operative at the sites investigated for this project. Selection of areas for testing was therefore based on the distribution of surface artifacts and, in the case of 39LM31, features exposed in the cutbank.

The excavated matrix was screened through one-half inch mesh. One-half inch mesh was used instead of one-quarter inch mesh because of the extremely dry soil conditions. Screening through one-quarter inch mesh was attempted at each site prior to changing to one-half inch mesh. One-quarter inch mesh proved impossible to use at 39LM26, 39LM27 and 39LM204. A two liter soil sample was taken from each level of each excavation unit. Contents from two features were collected from Test Unit (T.U.) 5 at 39LM204 for flotation analysis.

At 39LM31 excavations were completed by hand. Limited access to the site did not allow for the backhoe to be moved to this location. A 1 x 1 meter and a 2 x 2 meter unit were excavated to a culturally sterile level. All excavated matrix from 39LM31 was screened through one-quarter inch mesh. Two lines of 30 cm deep shovel tests were also

excavated at 39LM31.

Analysis Techniques

Lithics:

Initially, all lithic materials were separated into two groups: those items without evidence of intentional usage and those exhibiting deliberate modification or modification occurring as a result of use (e.g., Ahler 1975). Items included within the first group are referred to as debitage. The other group includes items generally referred to as "tools". This latter group has been further divided into various tool types based on general morphological characteristics and implied functional uses.

Lithic Debitage:

All lithic debitage was size graded, identified as to raw material type and stage of decortication and counted. Raw material type was defined using regionally accepted terminologies (e.g., Ahler 1975; Ketcherside 1983). Stage of decortication follows Schneider (1972). Size grades are as follows:

Size Grade

- | | |
|---|--|
| 1 | greater than or equal to 2.54 cm (1 inch). |
| 2 | greater than or equal to 1.47 cm (.5 inch) but less than 2.54 cm. |
| 3 | greater than or equal to .635 cm (.25 inch) but less than 1.47 cm. |
| 4 | less than .635 cm. |

The narrowest dimension on the artifact determines the size grade.

The separation according to raw material types was accomplished through the visual inspection of each piece and the comparison with written descriptions and/or laboratory samples. The following descriptions summarize the raw material types recognized within the assemblages.

Bijou Hills quartzite is characterized as a greenish-gray, coarse grained quartzite or silicified sediment. Outcrops of this material are present along the Missouri River at various locations in southern South Dakota (Ahler 1977; Nowak 1983).

Fossiliferous chert is a cryptocrystalline material containing organic remains. These cherts are unidentified as to source and may have been obtained from either secondary deposits or from outcrops.

The category chert represents a condensation of other varieties of chert. These cherts are unidentified as to source and may have been obtained from either secondary deposits or from outcrops.

Plate chalcedony occurs in the "badlands areas of southwestern South Dakota and northwestern Nebraska, particularly in the White River drainage" (Ahler 1975:102). Plate chalcedony is distinctive in its appearance, having a "frosted, matte appearance" on both the inverse and obverse surfaces (Ahler 1975:102).

Agate/chalcedony represents a condensation of other varieties of chalcedony. These chalcedonies are unidentified as to source and may have been obtained from either secondary deposits or from outcrops.

Quartz/quartz crystal is characterized by a coarse uneven fracture surface in the clear to milky colored coarse grained quartz and a glass-like but somewhat uneven fracture in the fine grained clear quartz. No source has been identified for this material.

Tongue River Silicified sediment is characterized by a gray, yellow or red colored silicified sand with occasional fossilized plant remains. Source areas are described as western North Dakota and South Dakota with secondary deposits noted in northwestern Iowa (Anderson 1971). Originating out of the Morrison Formation (Craig 1983:40), both primary and secondary deposits of gray, gray-yellow and red varieties occur throughout most of Wyoming as well. This raw material type, which appears to have a widespread distribution, is also referred to as Morrison silicified sediment or Morrison quartzite.

Scoria is a regional term for one of the materials resulting from fires in underground coal seams. Ketcherside (1983:185) describes it as "a soft, opaque, orange to pink, metamorphosed shale with a splintery fracture, and easily separated along parting planes."

Sandstone may be described as "a cemented or otherwise compacted detrital sediment composed predominantly of quartz grains, the grades of the latter being those of sand" (The American Geological Institute 1976:376). Numerous sources of sandstone are present in the general area (Wing and Gries 1941).

Granite may be described as a coarse grained igneous rock. The specimens present in the assemblages may have been obtained from the areas of glacial debris west of the river or from gravels (Wing and Gries 1941:30).

Lithic Tool types:

Five chipped stone tool types are present within the assemblages. A brief description of each is presented below.

Projectile points are thin, bifacially retouched artifacts, generally triangular to lanceolate in outline, usually with deliberate basal modification for hafting purposes. Projectile points differ stylistically through time allowing for a general chronological placement of the site's occupation. Individual projectile points are classified using areally appropriate terminology (e.g., Zimmerman 1985;

Neuman 1975). This information is presented in the specific site description chapters.

Bifaces are bifacially flaked artifacts usually without basal modification. Outlines range from ovoid to triangular.

End scrapers are triangular to ovoid in shape with steep unifacial retouch along the distal margin. Retouch may extend on to the lateral edges of the artifact.

Retouched flakes are usually unifacially, but sometimes bifacially, flaked artifacts. Flaking may occur on any of the margins of the artifact.

Cores refer to any nodule of lithic raw material bearing evidence of the intentional removal of flakes. In most cases, cores are not tools themselves but the actual source of the tools and flakes. Some cores do exhibit edge damage or modification which can be attributed to a secondary use of a core as a tool. This edge modification is more likely the result of preparatory techniques for strengthening the edge of the tool prior to flake removal. No attempt was made to distinguish between these two classes of edge modification.

In addition to the chipped stone tools, ground and pecked stone artifacts are also present in the assemblages. Types of ground and pecked stone artifacts present include abraders, shaft smoothers, a smoothed pebble and a pitted stone. Definitions of these tool types are presented below.

Abraders are defined as artifacts manufactured from either sandstone or scoria with one or more "abrading" surfaces (e.g., Williams 1983:602).

Shaft smoothers are narrow pieces of sandstone with one or more grooves oriented with the long axis of the artifact. The edges of the sandstone are rounded or smoothed.

The smoothed pebble is smoothed on the inverse surface. The inverse surface is flat and regular. The artifact was manufactured from naturally rounded pebble.

The pitted stone is a disc shaped stone with pits in the center of each of the two faces. These artifacts have been referred to as "pitted handstones or nutting stones" (Lehmer 1971:81).

Ceramics:

Rim sherds were identified to type using the descriptions found in Hoffman (1968), Grange (1968), Kivett (1958), Smith (1975, 1977), and Smith and Grange (1958). Johnson (1980) ceramic identification keys for Coalescent wares were also employed for this analysis.

Body sherds were sorted by size grade, finish and temper. A count

and weight were calculated for each size grade, finish and temper.

Bone Tools:

Scapula knives, a bone projectile point, an awl, a bone used for groove and snap technique manufacture of beads and a bone bead were recovered from 39LM204. These artifacts are discussed in Chapter Eight. The following definitions were used in identifying these tools.

Lehmer (1971:91) defines scapula knives as: "...roughly rectangular pieces cut from the blades of large scapulae. One edge usually includes either part of the scapular spine or the ridge at the posterior border; the opposite edge was worked down until it was fairly sharp."

Projectile points manufactured from bone are one of the artifact types listed by Lehmer (1971:145-146). This particular type of bone projectile point is conical in shape.

The awl was manufactured from a metapodial. Lehmer (1971:89) states that "Awls were commonly made by splitting either the proximal or distal end of deer or antelope metapodials and working the shaft down to a sharp point." This appears to be the method used to manufacture the awl from 39LM204.

The groove and snap technique of manufacturing beads involves preparing the surface of the bone (e.g., smoothing or polishing), incising grooves around the circumference of the bone and breaking the bone at the location of the grooves. A single bone bead fragment was recovered. This bead was probably manufactured using the groove and snap technique. An incised groove is centrally located on this bead fragment.

Faunal Materials:

Faunal materials, where possible, were identified to taxon, skeletal element, symmetry (right, left), portion (complete, proximal, distal, midsection, fragment), age (immature, mature), and weight of bone by Elaine Anderson and Thomas K. Larson. Identification was made using the comparative osteology collections at the Denver Museum of Natural History and Larson-Tibesar Associates. Alterations (burning, butchering, gnawing and weathering) on the bone were also identified and described. Bones of *Bison bison*, *Sylvilagus* sp., *Canis latrans*, and *Antilocapra americana* are most common in the assemblages. Unidentifiable bone fragments were weighed and size graded in the Larson-Tibesar Associates laboratory. The size grades are the same as those used for the lithic debitage. Because of their susceptibility to recent breakage, no attempt was made to count the unidentifiable fragments. No human osteological material was recovered.

Flotation Analysis:

Fill from Features 1 and 2 at 39LM204 was subjected to flotation. The flotation device used consists of a 20 gallon metal tub and a slightly smaller metal tub, the bottom of which has been replaced by #40 mesh screen. The smaller tub was placed within the larger and both were filled with water. The flotation sample was then placed within the smaller tub and this was gently agitated to allow soil to separate from the remaining cultural and organic materials. The material that floats on the surface of the water, or light fraction, was removed using an extremely fine mesh fish net. The heavy fraction, which remains on the bottom of the small metal tub, is also collected. Both the light fraction and the heavy fraction are then allowed to dry.

The light fraction was examined by Margaret Van Ness of the Cimarron Environmental Consortium. In addition to examining the light fraction, Ms. Van Ness also examined two dirt clumps from 39LM204 containing visible macrobotanical remains. These samples were gently water screened in a 0.5 mm sieve. Both the light fraction and the samples containing macrobotanical remains were examined under a binocular scope at 10x. All possible cultural remains, except charcoal, were separated from each sample. Seed identifications are based on Ms. Van Ness' comparative collection. The results of this analysis are summarized in Chapter Eight.

The heavy fraction was examined in the Larson-Tibesar Associates laboratory. No seeds or fruits were identified within the heavy fraction samples. Cultural materials observed consist of faunal materials, ceramics and lithics. These cultural materials were analyzed in the same manner as artifacts from other areas of excavation. The results of this analysis are summarized in Chapter Eight.

Radiocarbon Dating:

A total of four charcoal samples were submitted to Beta Analytic of Coral Gables, Florida and to Geochron Laboratories Division, Krueger Enterprises, Inc., of Cambridge, Massachusetts. Two samples, one from 39LM26 and one from 39LM204, were submitted to each laboratory. The results of the radiocarbon dating are presented in the site specific chapters. No materials were recovered from 39LM27 and 39LM31 that were suitable for submission for radiocarbon dating.

Curation of Collected Artifacts

All cultural materials recovered as a result of the 1988 Larson-Tibesar Associates' investigations will be curated at the South Dakota Archaeological Research Center, Rapid City. A listing of these artifacts is provided as Appendix A to this report.

CHAPTER FIVE 39LM26

Dori M. Penny

Site Description

Site 39LM26 is bisected by an unnamed seasonal drainage. Augustana College investigators designated the area east of this drainage as Area 1 and the area west of this drainage as Area 2 (Winham and Lueck 1984). Photographs of Area 1 and Area 2 are presented as Figure 2.

The site is located on a terrace approximately 400 meters from the last recorded channel of the Missouri River. Elevation of the site varies from 411 m (1350 feet) amsl to approximately 417 m (1370 feet) amsl. The 417 m (1350 foot) contour line is approximately 3 m above the last recorded location of the Missouri River floodplain. Stoddard Draw borders the easternmost extent of the site.

In 1804, Lewis and Clark described the area as "a butifull Plain Serounded with Timber to the extent of 3/4 of a mile in which there is great quantities of fine Plumbs" (Moulton 1986:78). This account may provide a view of the area as seen by the occupants of 39LM26 since its writing probably postdated the occupation of the site by only 60 years. While Lewis and Clark were in the area for several days, they did not record the presence of a village or evidence of an abandoned village.

Previous Investigations

The first description of 39LM26 was made to W. H. Over by Mr. H. E. Lee (Sigstad and Sigstad 1973). Lee also reported the "burying ground" located north of 39LM26.

J. J. Bauxar of the Smithsonian Institution, River Basin Surveys recorded the site in June of 1947. Bauxar recorded three areas. Two of these three areas were south of the "old highway" and the third area was described as north of the highway in a cultivated field. Midden concentrations were visible and an area resident, R.L. Thomas, noted an area where six "house circles" had been visible (Smithsonian Institution, River Basin Surveys site form completed by J. J. Bauxar, June 30, 1947). Bauxar and Paul L. Cooper made an extensive surface collection including rim sherds, projectile points, a scraper, a knife, worked stone, an abrader, worked and unworked bone, shell fragments, charcoal, glass fragments, china fragments and a bullet (Smithsonian Institution, River Basin Surveys cataloging form, P. L. Cooper and J. J. Bauxar, July 29, 1947). Bauxar recommended that the site be tested in



a



b

Figure 2. Photographs of 39LM26 showing Area 1 of the site, view to the northeast (a) and Area 2, beach, view to the west (b).

conjunction with work at 39LM27 (see Chapter Six of this report) and another adjacent site (Smithsonian Institution, River Basin Surveys site form completed by J. J. Bauxar, June 30, 1947).

A second collection was made by T. R. Garth, also of the Smithsonian Institution, River Basin Surveys. The collection was catalogued in August of 1950 and included body and rim sherds, a projectile point fragment, a scraper, a piece of worked catlinite and other worked stone (Smithsonian Institution, River Basin Surveys cataloging form, T. R. Garth, August 3, 1950).

Marvin F. Kivett of the Nebraska State Historical Society initiated excavations at 39LM26, also called the Sharpe site in 1951. Testing by C. F. Miller of the Smithsonian Institution, River Basin Surveys preceded Kivett's excavation (Winham and Lueck 1984:137). Larson-Tibesar Associates were unable to obtain any information on Miller's investigations from either the South Dakota Archaeological Research Center, Rapid City or the National Park Service, Midwest Center, Lincoln. The Sharpe site was named for the landowner, a prominent South Dakotan, M. Q. Sharpe. The designation, Oacoma site, was used by Kivett in his 1958 report of the investigations at both 39LM26 and 39LM27. The designation Oacoma site is maintained in this report although 39LM26 and 39LM27 are treated separately. Kivett (1958:14) listed the area of the combined sites as approximately 914 m (3000 feet) by 457 m (1500 feet).

During the 1951 season, a circular earthlodge was excavated at 39LM26. This earthlodge (F11; Figure 3) was located north of Highway 16 (the exact location of Kivett's excavations, illustrated on Figure 3, is not known). A midden was located on one side of the lodge (F11). The lodge contained two overlapping central hearths. Other evidence, including filled in postholes, indicated that the house has been extensively repaired (Kivett 1952:12-14).

A second earthlodge (F40; see Figure 3) was exposed in the bank created by the construction of Highway 16. The remaining portion of this lodge floor was also excavated along with an adjacent midden (Kivett 1952:14-15). Underneath this partial lodge floor, a basin containing adult human bone fragments was excavated (Kivett 1952:14-15). Kivett (1958:65) later suggested that this area may have been used to prepare skeletons for burial.

A fortification ditch located in excavation was apparently surrounded on its inner side by a wooden fence. This fortification ditch/palisade is not shown on Figure 3 (Kivett 1958:15). Its exact location is not known. Kivett (1952:21) compares the construction of this fortification with one described by Trudeau at an Arikara village in 1795:

The Ricaras have fortified their village by placing palisades five feet high which they have reinforced with earth Against these poles which are five feet high they pile fascines of brush which they cover with an embankment of earth two feet thick; in this way, the height

of the poles would prevent the scaling of the fort by the enemy, while the well-packed earth protects those within from their balls and arrows.

Kivett (1952:16) excavated a burial pit outside the fortification ditch at 39LM26. This pit (F34; see Figure 3) contained five secondary burials, which appeared to be associated with the occupation of the earthlodge village (Kivett 1952:16-17).

In 1952, Kivett (1958:15) excavated eight more lodge floors at 39LM26, located four other lodges and excavated at least four additional features outside the lodges (see Figure 3). The cultural material excavated in both 1951 and 1952, particularly the ceramic ware types, indicate a Post-Contact Coalescent occupation with an apparent relationship with the Wright site (25NC3) in Nebraska (Kivett 1952:55-58). The Wright site is attributed to the Lower Loup focus, the precursor of historic Pawnee.

It is significant that the Fort Thompson Focus [which includes 39LM26 and 39LM27] had been attributed to the Arikara and that the Wright site is in the . . . Lower Loup sites. . . identified as Skidi Pawnee. These archeological interpretations parallel the linguistic, traditional and historically close relationships between the Skidi and the Arikara [Grange 1968:151-152].

Lehmer (1971:201) also points to the differences between the Oacoma sites and other sites attributed to the Arikara ". . . differences between the pottery from the Talking Crow Site (39BF3) and the Medicine Crow Site (39BF2), on the left bank, and the Oacoma sites (39LM26 and 39LM27), on the right bank, suggest differences at the subphase level."

The extensive collection of artifacts from the 1951 and 1952 excavations include two blue glass pendants. These pendants were manufactured using the technique of grinding and melting beads (Kivett 1958:100). The Arikara purportedly learned this technique from the Spanish (Wedel 1955; Stirling 1947). The presence of these pendants almost certainly indicates that the site was inhabited by, or its inhabitants had contacts with, the Arikara. Wedel (1955) dates the use of this technique to not much earlier than ca. 1800. However, on the basis of his excavations at both 39LM26 and 39LM27 (see Chapter Six of this report), Kivett (1958:137) concluded that ". . . the Oacoma Site (39LM26 and 39LM27) represent a single village site occupied not later than 1725, and perhaps 50 years earlier."

Kivett (1958:11) also recorded a late nineteenth century occupation of the site area. This corresponds to information he had obtained from local residents indicating that a trail from Oacoma to Chamberlain crosscut the site and that an early homesteader also occupied the area after the Dakota left (Kivett 1958:11).

Kivett (1958:105) recorded a number of artifacts on the surface which he believed were related to the occupation of the area by Brule and Euroamericans. These artifacts included fragments of glass and

metal. The remains of a log cabin and a "small barrel of garbage" were located on the terrace edge within the boundaries of 39LM26 (Kivett 1958:105). This "small barrel of garbage" included barrel hoops, baking powder containers, an iron axe blade, a serrated flesher manufactured from an octagonal rifle barrel, a percussion gun lock, cowry shells, dentalium shells, and metal ornaments (Kivett 1958:105). This assemblage appears indicative of the kind of occupation described by Lees (1985) at the Deerfly site.

J. E. Mills of the Smithsonian Institution, River Basin Surveys also conducted excavations in 1952 (Winham and Lueck 1984:137). Larson-Tibesar Associates were unable to obtain any further information on this project from either the South Dakota Archaeological Research Center, Rapid City or the National Park Service, Midwest Center, Lincoln.

Another surface collection was made by Paul L. Cooper sometime prior to May, 1954. This collection included a large number of chipped stone tools, worked and unworked bone and shell, groundstone, rim sherds, and body sherds (Smithsonian Institution, River Basin Surveys cataloging form, P. L. Cooper, May 28, 1954).

Robert Neuman submitted wood samples from the site for dendrochronology dating to Harry F. Weakly in 1960. These samples were obtained from collections made from five houses and one cache pit. Weakly reported three dates at 1741 and two dates at 1742. All dates were "near bark". Other dates reported were 1734, 1735 and 1739, all from samples with an unknown number of rings missing (Harry E. Weakly to Robert Neuman in a letter dated January 25, 1961).

Marvin Kay of the National Park Service, Midwest Archeological Center, (1973:7) visited 32LM26 in 1973 and recorded an extensive scatter of Woodland ceramics on the beach. At that time, the site was undergoing extensive damage through wave action and vandalism. Kay (1973:7-9) recommended that excavations be completed at the site.

Subsequent work at 39LM26 included a 1980 inspection of the site by Tim Nowak, South Dakota Archeologist, Corps of Engineers, Omaha District and the recording of the site by Augustana College during their survey of the west bank of Lake Francis Case in 1983 (John E. Velhradsky in a letter to Marvin F. Kivett dated January 16, 1980; Winham and Lueck 1984).

The survey party from Augustana College observed rim sherds which they identified as dating to the Initial Coalescent and Extended Coalescent/Post-Contact Coalescent (Winham and Lueck 1984:135-136). Some artifacts of Euroamerican manufacture were also observed. Augustana College recommended reevaluation of the site (Winham and Lueck 1984:138).

The 1988 Larson-Tibesar Associates Investigations

Introduction:

The goals of the 1988 Larson-Tibesar Associates investigations were to establish the age and content of the cultural components, document the integrity of these components, determine the relationship of the components to cultural adaptation through time, and determine site significance. One test unit was excavated in each of the two areas of the site defined by Augustana College. A map illustrating the relationship of these areas is presented as Figure 4. The placement of the test units was based on information from mapping.

Area 1, Test Unit 1:

Area 1 is located to the east of the unnamed drainage which bisects the site. A second drainage, known locally as Stoddard Draw, forms the eastern boundary of Area 1. A map showing the location of Test Unit 1 in Area 1 is presented as Figure 5. As is apparent from the map, the area was disturbed by railroad construction in the early twentieth century. The Area 1 boundaries are the same as those determined by Augustana College, except that the area west of the abandoned railroad grade was not included since no evidence for cultural material could be found. While no General Land Office plat exists for this area, oral accounts and archeological evidence obtained by previous investigators indicate the presence of both Native American and Euroamerican occupations of this general area.

No cultural material was present on the surface of Area 1. A ditch-like depression perpendicular to the existing trail and slightly north of the -1 contour line was observed. This feature is also visible on the aerial photograph. It is suggested that this feature represents either the historic trail mentioned by Kivett's informants or remnants of the palisade partially excavated by Kivett (1958:21).

Test Unit 1 was located within what appears to be a depression. The exact boundaries of this depression were not easily discernible. A hearth and two postholes observed in this unit indicate that the depression may represent the location of a lodge. The test unit was four meters in length and one meter wide. Excavation proceeded in 30 cm levels to a depth of 60 cm.

Level 1 of this test unit was excavated in a very dark grayish brown loam and, near the base of the level, a gray loam (Figure 6). Artifacts recovered from this level include a Besant point, a chalcedony secondary flake, a fire-cracked rock, twenty-one undecorated body sherds, two decorated body sherds, an Iona S Rim rim sherd (Figure 7a) and 31.2 grams of unidentified animal bone fragments. The Besant point (Figure 7b) dates to the Middle Woodland. It is suggested that this point may have been thrown up on the roof during the construction of the lodge. Iona S-Rim ceramics are known from both Extended Coalescent and Post-Contact Coalescent variant sites (Johnson 1980:55).

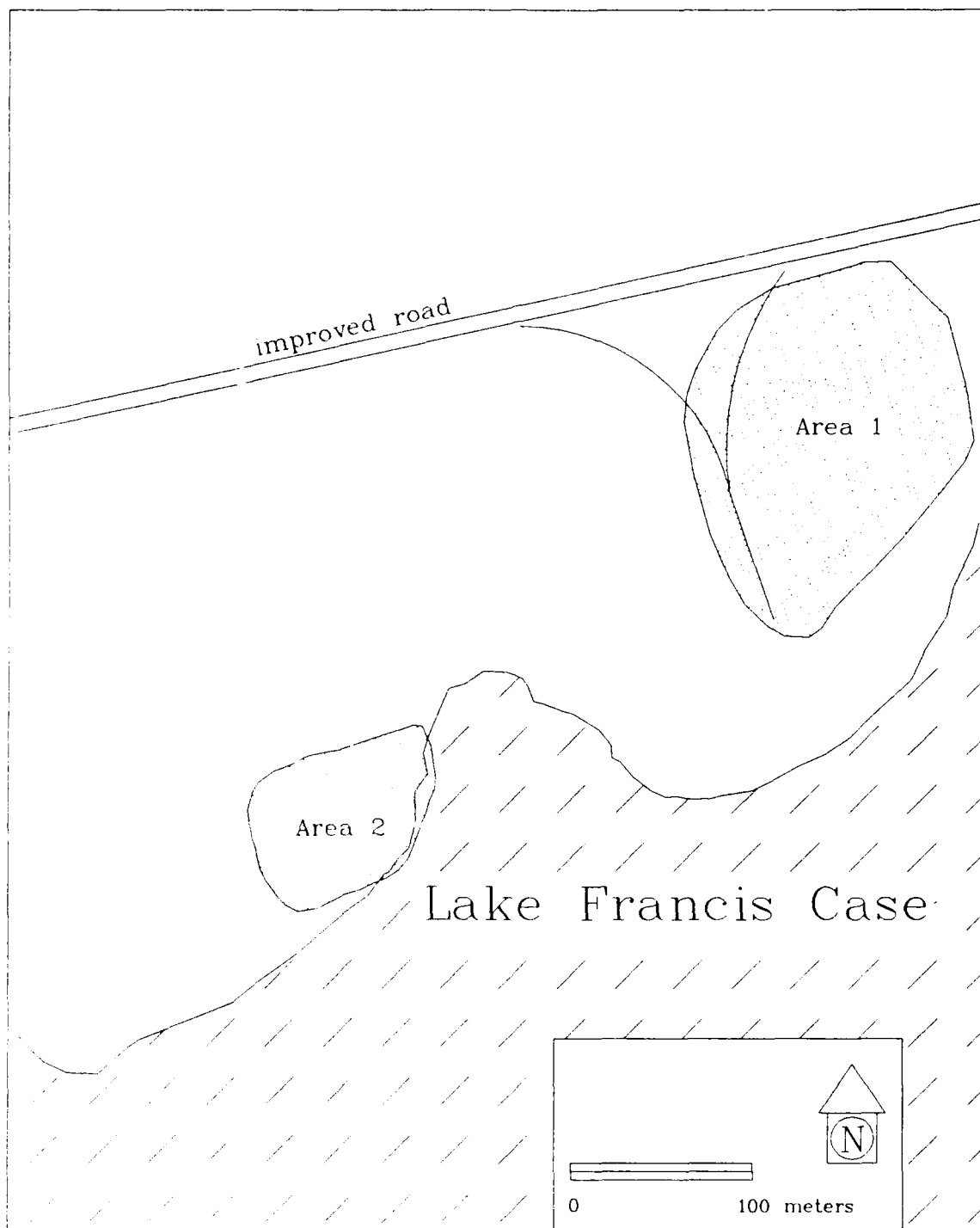


Figure 4. A map illustrating the relationship of Area 1 and Area 2, 39LM26.

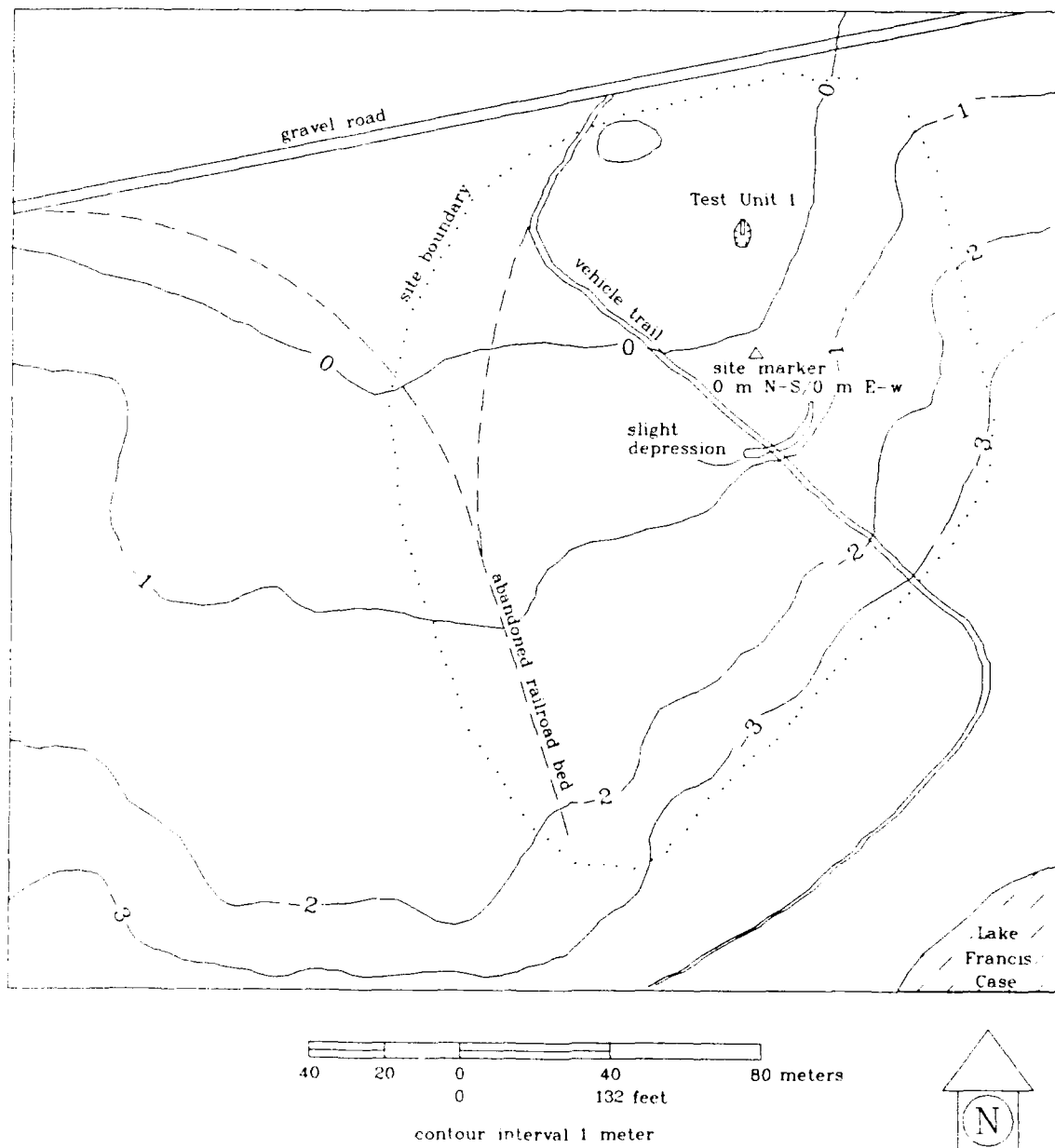


Figure 5. Map of 39LM26, Area 1.

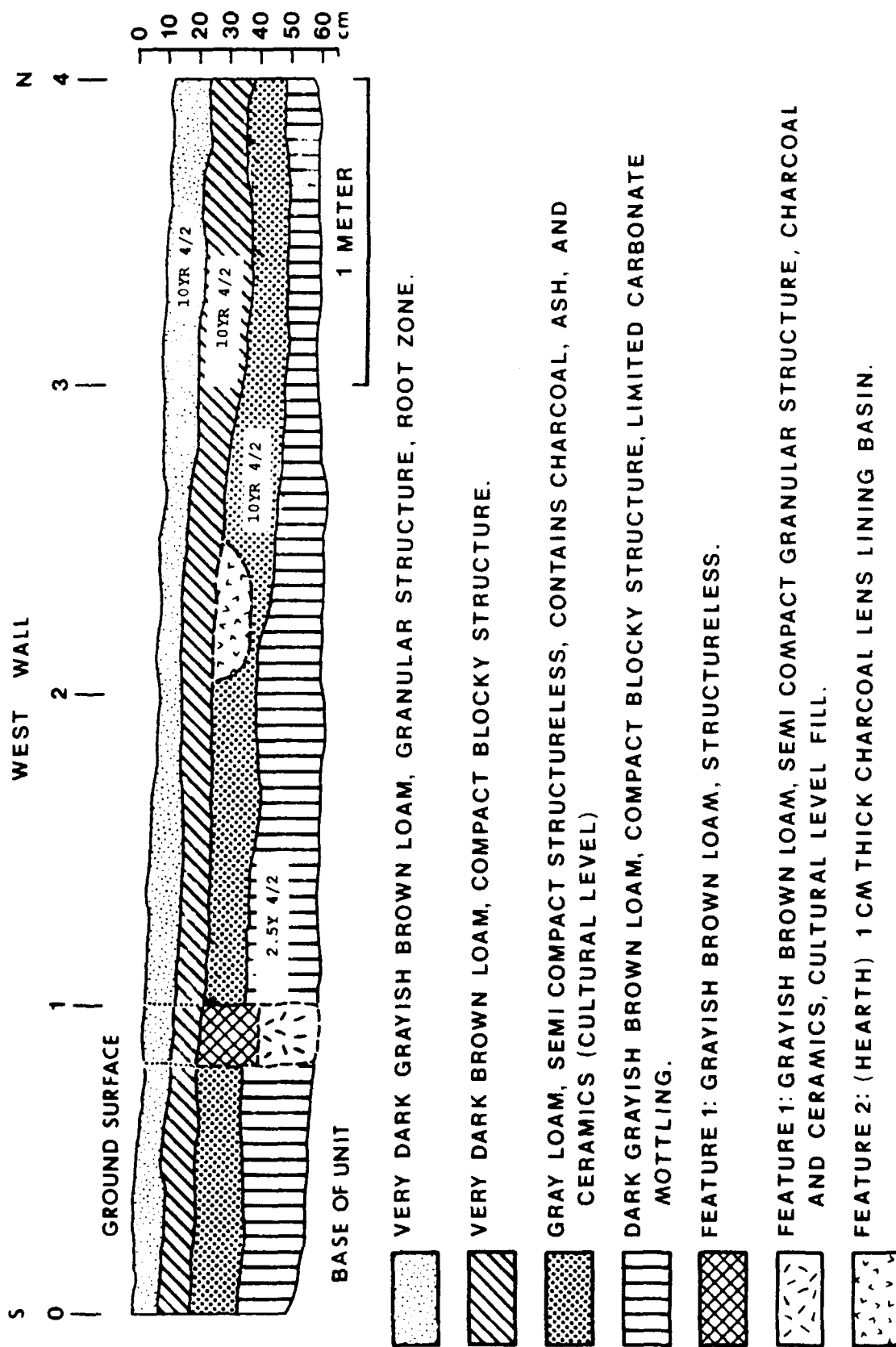


Figure 6. Profile of Test Unit 1, 39LM26.



a



b



c

0 1 2 3 cm

Figure 7. Artifacts from Area 1, Test Unit 1, of 39LM26; Iona Rim (a), Besant point (b), and Talking Crow Straight Rim (c).

Three features were identifiable near the base of Level 1. Feature 1, which appears to be a post hole is apparent through a soil change in the west wall of the unit near 1 m N (see Figure 6). This feature continues into Level 2. Feature 2 is a basin shaped hearth. The shape of the hearth and the charcoal lens that lines it are more apparent in Level 2 (see Figure 6). Feature 3 is a post hole in the east wall of the unit near 4 m N.

Level 2 was excavated into three different strata varying from very dark brown loam to a dark grayish brown loam (see Figure 6). A Talking Crow Straight Rim rim sherd (Figure 7c), fourteen undecorated body sherds, one decorated body sherd and 14.6 grams of unidentified bone were recovered from this level. Talking Crow ware has been found in Extended Coalescent and Post-Contact Coalescent sites (Johnson 1980:68). The dark grayish brown loam is culturally sterile.

Features 1 and 3, the post holes, appear to terminate near the base of Level 2. Charcoal and ceramics were visible in the final 20 cm of fill of Feature 1.

A sample from the charcoal lens lining Feature 2 was submitted to Beta Analytic, Inc. of Coral Gables, Florida. A C-13 corrected radiocarbon age of 810 ± 80 years before present (B.P.) (A.D. 1140; Beta 28147) was derived from the sample. Following Stuiver and Reimer (1986), this age equates to a dendrochronologically calibrated age of A.D. 1223. Because the post holes and the hearth are believed to indicate a lodge feature related to the Post-Contact Coalescent or other Plains Village occupation of the site, a second sample from the same feature was submitted to Krueger Enterprises, Inc., Geochron Laboratory Division of Cambridge, Massachusetts in order to substantiate or refute the first date. A C-13 corrected radiocarbon age of 95 ± 120 years B.P. (A.D. 1855; GX 14512) was derived from the second sample. The essentially "modern" age and large sigma render the age open to interpretation. Taking into account the standard deviation, the date (i.e., A.D. 1735) could be in rough agreement with the dates calculated by Harry E. Weakly for this site. Following Stuiver and Reimer (1986), this age equates to dendrochronologically calibrated ages of A.D. 1714, 1715, 1888, 1912 and 1955.

Area 2, Test Unit 2:

Area 2 is located on the west side of the unnamed seasonal drainage that bisects the site. A map showing the location of Test Unit 2, Area 2 is presented as Figure 8. Boundaries for this area of the site were determined using the distribution of cultural material as found by Augustana College and Larson-Tibesar Associates.

A large amount of cultural material is present on the beach immediately adjacent to Area 2 as well as within the area unaffected by wave action. A detail of the site map showing the location of the collected surface artifacts is presented as Figure 9. A legend corresponding to this detail map is presented as Table 1. Collected

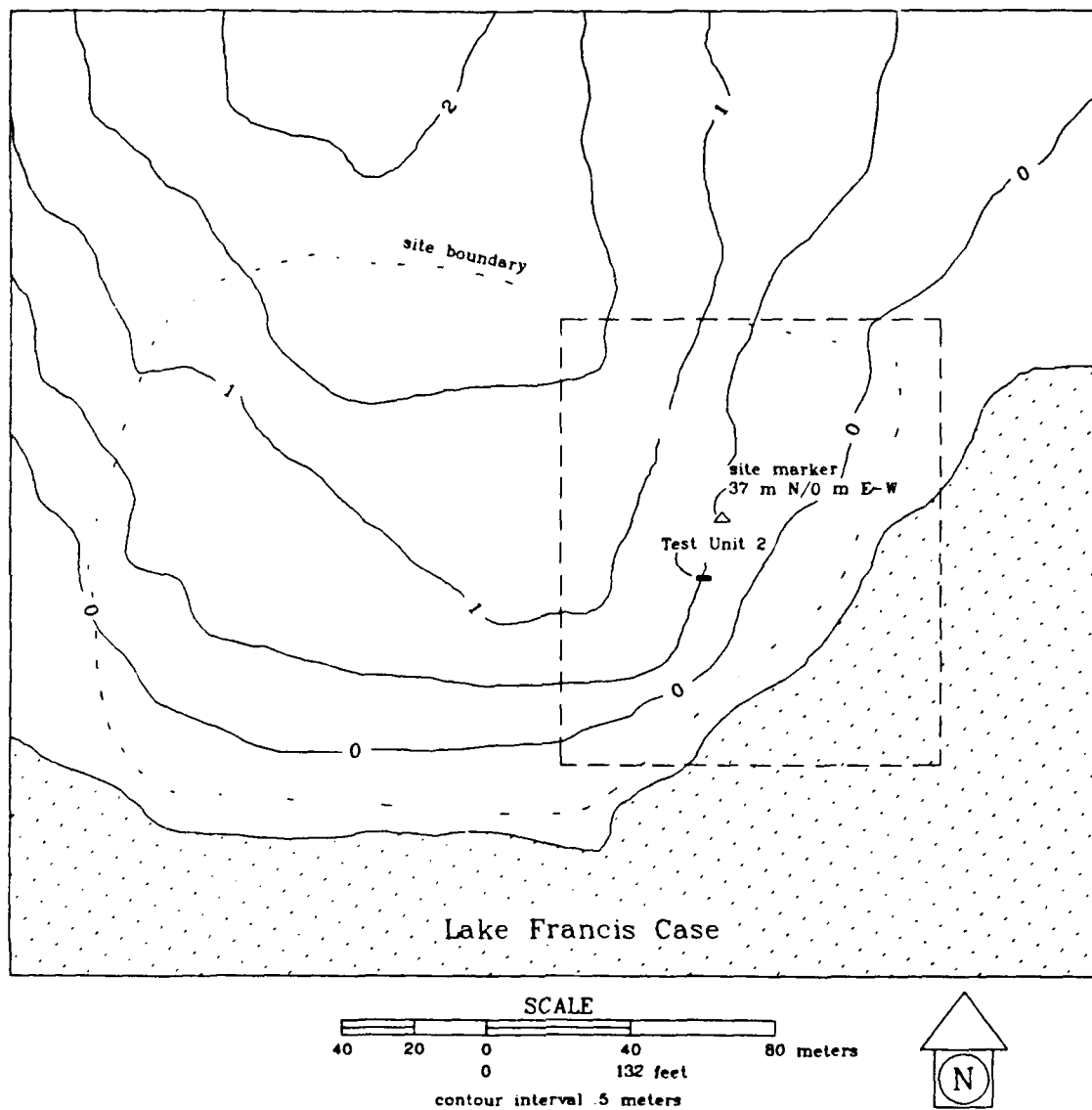


Figure 8. Map of 39LM26, Area 2. Dashed line indicates area of detail map (Figure 9).

Table 1. Map legend for detail map of Area 2 of 39LM26.

<u>Map</u> <u>Number</u>	<u>Description</u>
2	Cadotte Collared rim sherd.
3	Wheeler Deep Trailed Incised rim sherd.
4	Talking Crow Straight Rim rim sherds (n = 3).
5	Talking Crow Straight Rim rim sherd.
6	Talking Crow Straight Rim rim sherds (n = 2).
7	Talking Crow Straight Rim rim sherd.
8	Decorated body sherd and a rim sherd of an unknown ware type.
10	Cadotte Collared/Nance Pinched Collar rim sherd.
11	Talking Crow Straight Rim rim sherd.
15	Bone, lithic debitage, undecorated and decorated body sherds, and Talking Crow Straight Rim rim sherds (n = 5).
16	Bone, body sherds and lithic scatter.

artifacts include Talking Crow Straight Rim, Iona S-Rim, Wheeler Deep Trailed Incised, Cadotte Collared and a rim sherd of unknown ware type. Examples of these wares are illustrated in Figure 10 and Figure 11. The rim sherd of unknown ware type is believed to date from the Post-Contact Coalescent based on the thickness of the sherd and the design elements. A metal tinkler was also collected from the beach (Figure 11f). This artifact dates to the Post-Contact Coalescent occupation of the site.

Test Unit 2 was located in the area above the concentration of cultural material on the beach. The test unit was four meters long and one meter wide. It was excavated in three 30 cm levels to a depth of approximately 90 cm.

Level 1 was excavated in a dark grayish brown clay loam. Near the base of this level a transition from this dark grayish brown clay loam to a dark brown clay mottled with carbonates was observed (Figure 12). Artifacts recovered from this level include two cores, twelve flakes, nineteen undecorated body sherds, three decorated body sherds, two Talking Crow Straight Rim and one Wheeler Deep Trailed Incised rim sherd, and 28.1 grams of unidentified bone. The Wheeler Deep Trailed Incised rim sherd is diagnostic of the Extended Coalescent and Talking Crow ware is diagnostic of the Extended Coalescent/Post-Contact Coalescent (Johnson 1980:56,68). Six identifiable bone fragments were also recovered from Level 1. This material is enumerated in Table 2.

Level 2 was excavated entirely in the dark brown clay (see Figure 12). No cultural material was observed within Level 2.

Level 3 was also excavated entirely in the dark brown clay (see Figure 12). This level was excavated to determine if a second cultural level might be present. No cultural material was observed within Level 3.

Discussion

Excavations in Areas 1 and 2 of 39LM26 indicate that subsurface cultural materials are present. The tested lodge feature within Area 1 has the potential to yield additional information pertaining to the construction and maintenance of features at this site.

While no features were defined in Test Unit 2 in Area 2, the cultural material present in Level 1 of this unit provided a relative date for this area of the site.

National Register Eligibility

In assessing the National Register status of 39LM26, a series of research questions (see Chapter One) were posed to determine whether or not the site contained information which could be used to further enhance our understanding of prehistory and/or history in the area. Research Domain 1 deals with site function, age and cultural affiliation. Kivett's excavations at 39LM26 provided evidence for a



Figure 10. Artifacts from Area 2 of 39LM26; Talking Crow Straight Rim (a-d) and Iona S Rim (e).

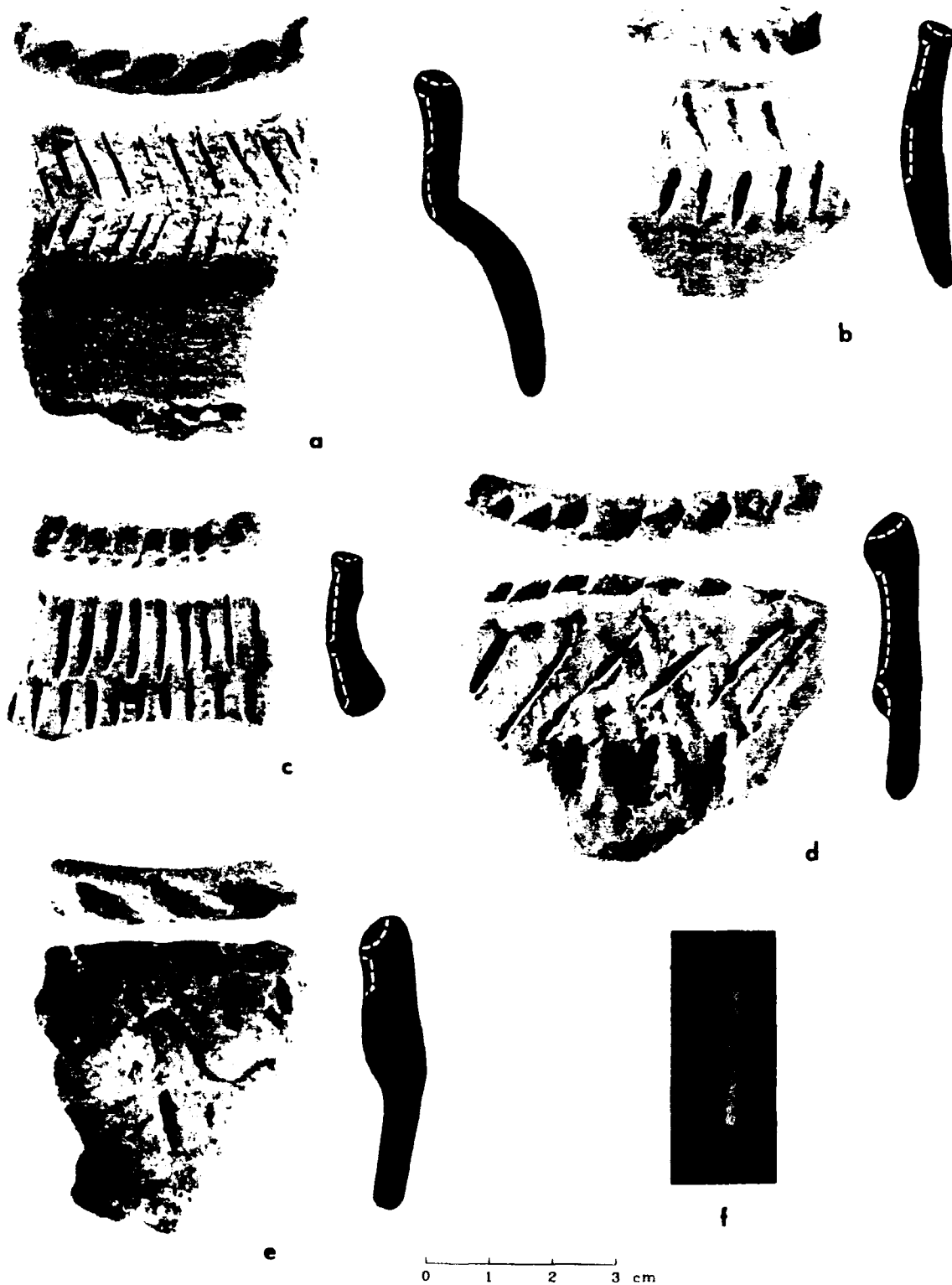


Figure 11. Artifacts from Area 2 of 39LM26; Wheeler Deep Trailed Incised (a-b), Cadotte Collared (c-d), unidentified Post-Contact Coalescent rim form (e), and metal tinkler (f).

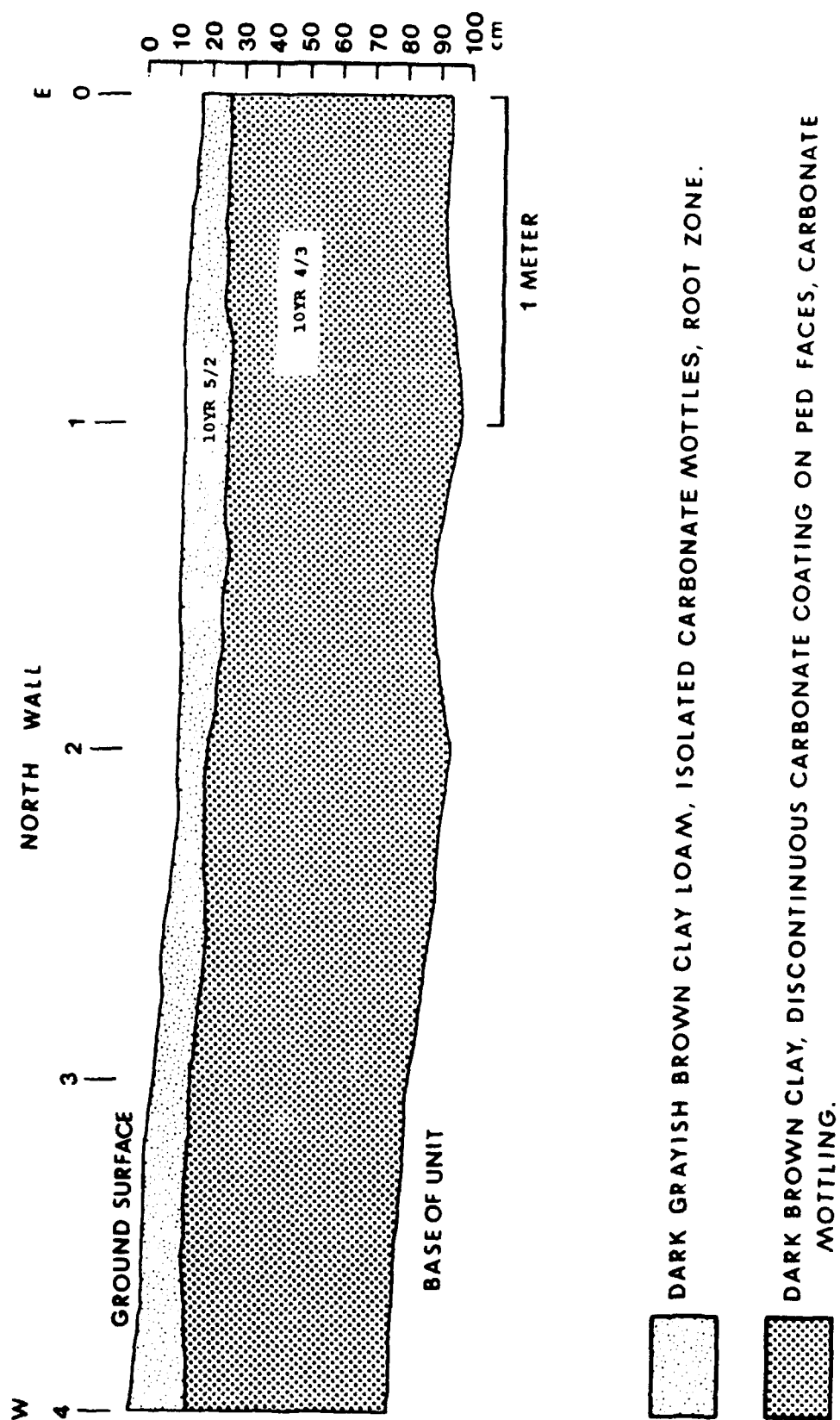


Figure 12. Profile of Test Unit 2, 39LM26.

Table 2. Identifiable bone from Area 2, Test Unit 2, Level 1, 39LM26.

<u>Species</u>	<u>Element</u>	<u>Portion</u>	<u>Catalog #</u>
<i>Bison bison</i>	axis vertebra	articular process	49
	third phalanx	fragment	48
<i>Antilocapra americana</i>	ulna	proximal end	47
artiodactyl	long bone	fragment	50
cf. <i>Bison</i>	acetabulum	fragment	45
indeterminate large mammal	unidentifiable bone	fragment	46

Post-Contact Coalescent village, most likely Arikara, and a reservation era occupation of the site area. The exact location of Kivett's excavations are not known. Subsequent investigations at the site area have indicated that Woodland, Initial Coalescent and Extended Coalescent occupations also occurred (Kay 1973; Winham and Lueck 1984).

The 1988 Larson-Tibesar Associates investigations indicate that Area 1 contains information pertaining to site function and age. The three features present in Test Unit 1 probably represent an Extended Coalescent/Post-Contact Coalescent lodge. The Besant point present in Level 1 may have been thrown up on the roof of this lodge during its construction or may represent rodent disturbance.

Based on the condition of Area 1 and its undulating slope, it seems reasonable to assume that more intact subsurface features are present within this area. Evidence of features such as the palisade partially excavated by Kivett may also be present. Further excavation would likely produce other radiocarbon datable materials and artifacts datable through relative means. Further excavation in this area might also produce information pertinent to the definition of the Woodland and Initial Coalescent occupations of this site.

Excavation in Area 2 revealed what is probably a portion of the sheet of refuse common to Coalescent villages. The large amount of artifacts present on the beach in this area indicates that substantial deposits are being destroyed by wave action. Rim sherds collected from the beach and recovered from excavation indicate an occupation dating to the Extended Coalescent and/or the Post-Contact Coalescent. The results of the excavation of Test Unit 2 indicate that additional subsurface deposits of cultural material may be present.

Research Domain 2 pertains to site extent. The 1938 aerials are no longer in existence. Kivett's (1958:15) site map can not be directly related to either the site map produced as a result of Larson-Tibesar Associates' investigations or to the U.S.G.S. 7.5' topographic map for this area. The 1988 investigations identified 24,083 square meters remaining in Area 1 and 26,189 square meters in Area 2. If the 1938 aerial photographs were made available or if other types of maps from the 1951 and 1952 excavations are found, a determination of the site extent lost to erosion might be made.

Research Domain 3 deals with culture change and adaptation through time. Site 39LM26 has already provided considerable information pertaining to Post-Contact Coalescent villages and, to a lesser extent, reservation era material culture. If an intact Woodland level exists at the site, the site has the potential to significantly add to our understanding of Woodland adaptations in this area. Artifacts associated with the Initial Coalescent and Extended Coalescent have also been observed at the site. If stratified deposits exist at this site, their excavation would provide an opportunity to more fully understand change and adaptation in a limited geographic area. The possibility that 39LM27 either represents the same occupation as 39LM26 or a sequence of occupations (see Chapter Six) adds to the research potential.

Research Domain 4, site significance, is an amalgamation of the information obtained through the examination of the first three research domains. Because the site has the potential to significantly add to our understanding of prehistory within the Big Bend region by providing information pertaining to age, function, and culture change and adaptation through time, is 39LM26 believed to be eligible for nomination to the National Register of Historic Places.

Recommendations

The shoreline of this site in Area 2 is being subjected to damage through wave action. Measures should be taken to limit the damage to the site.

CHAPTER SIX
39LM27

Dori M. Penny

Site Description

Site 39LM27 is on a terrace above the Missouri River, approximately 500 meters from the last recorded channel of the Missouri River. Two areas of the site, separated by an unnamed seasonal drainage, were identified by Augustana College (Winham and Lueck 1984). The area east of the drainage was designated Area 1 and the area west of the drainage as Area 2. These designations are used in this report. Photographs of Area 1 and Area 2 are presented as Figure 13. Elevation ranges from 411 m (1350 feet) to 417 m (1370 feet) amsl. The site is approximately three meters above the last recorded location of the floodplain of the Missouri River.

Lewis and Clark camped in this vicinity in September 1804 (Moulton 1986:79). In addition to the description provided in Chapter Five of this report, Lewis and Clark state:

the deer were very gentle and in great numbers on this bottom which had more timber on it than any part of the river we had seen for many days past, consisting of Cottonwood Elm, some indifferent ash and a considerable quantity of a small species of white oak . . . [Moulton 1986:76].

They did not record the presence of a village or evidence of an abandoned village near the location of 39LM27.

Previous Investigations

The first description of 39LM27 was made to W. H. Over by Mr. H. E. Lee (Sigstad and Sigstad 1973). The site was not recorded until 1947, when it was visited by Paul L. Cooper of the Smithsonian Institution, River Basin Surveys.

Cooper described the site as a cultural material scatter consisting of sherds, lithics, bone and shell (Smithsonian Institution, River Basin Surveys, site form completed by Paul L. Cooper, June 30, 1947). Cooper also recorded concentrations of cultural material, depressions believed associated with lodges, and two areas of red, possibly burned, earth (Smithsonian Institution, River Basin Surveys site form completed by Paul L. Cooper, June 30, 1947). Cooper collected rim sherds, body sherds, projectile points, scrapers, knives, sandstone abraders, quartz pecking stones, cores, other worked stone, a bone



a



b

Figure 13. 39LM27 Area 1, beach, view to west (a) and Area 2 with Area 1 in background, view to east (b).

wrench, other worked and unworked bone, serrated shell fragments, unworked shell and animal teeth (Smithsonian Institution, River Basin Surveys cataloging form, Paul L. Cooper and J. J. Bauxar, July 30, 1947). Cooper recommended excavation at the site.

Cooper revisited the site on June 9, 1951. During that visit he collected a number of rim and body sherds (Smithsonian Institution, River Basin Surveys specimen catalog form, Paul L. Cooper, June 1951). C. F. Miller of the Smithsonian Institution, River Basin Surveys initiated excavations at the site in 1951 (Winham and Lueck 1984:140). Larson-Tibesar Associates was unable to obtain any other information about either the Cooper visit in 1951 or Miller's excavations.

Marvin F. Kivett of the Nebraska State Historical Society excavated at 39LM27, the Donahue site, in 1951 and 1952. The Donahue site was named for the landowner. Kivett (1958) also used the designation Oacoma site for both 39LM27 and 39LM26. The designation Oacoma site is maintained in this report, although 39LM27 and 39LM26 are treated separately.

Kivett (1952:7) noted a number of "low ridges or mounds on which there were large quantities of animal bone, pottery sherds, stones, and similar camp refuse. . .Immediately to the east of this trash area there were many charcoal and burnt earth fragments on the surface." Kivett excavated one circular earthlodge and a large area in the midden and estimated that as many as ten lodges remained at 39LM27 (Kivett 1958:19).

The single lodge excavated at 39LM27 had a central hearth and three storage basins (Kivett 1958:21). The remains of a wooden mortar set into the lodge floor and "small bits" of copper and iron were also present (Kivett 1958:21). Split rib knife handles stained with corrosion from metal blades were also recovered (Kivett 1958:83,128). A fragmentary infant burial was recovered from a posthole on the west side of this lodge (Kivett 1958:64).

Lodge construction, rim sherd types, and artifacts of Euroamerican manufacture led Kivett (1958:137) to conclude that 39LM27 and 39LM26 were occupied no later than 1725 and as early as 1675. This range was also based on comparable sites assigned to the Lower Loup focus in Nebraska. As discussed in Chapter Five, Kivett (1952:55-58) demonstrated an apparent relationship between 39LM27 and 39LM26, the Oacoma sites, and the Wright site (25NC3) in Nebraska. The Wright site is assigned to the Lower Loup focus, believed to be the precursor of historic Pawnee. This is in agreement with the traditional relationship espoused by the Skidi Pawnee.

A classification based upon the testimony of the Skidi would place the Skidi and the Arikara in one group, and the Chaui, Kitkehahki and Pitahauirat in another group. The three tribes last named speak a common dialect, which more nearly approximates that of the Skidi than does the tongue of the Arikara; but both Skidi and members of the other three bands have no difficulty in understanding the speech of the

Arikara. The Skidi claim that the Arikara are Skidi, while, in turn, the Arikara look upon the Skidi as part of themselves [Dorsey 1904:xiii].

J. E. Mills of the Smithsonian Institution, River Basin Surveys conducted excavations at the site in 1952 (Winham and Lueck 1984:140). Larson-Tibesar Associates was unable to locate any further information concerning these excavations.

Cooper visited the site again in 1954 and made another collection which included rim sherds, body sherds, a projectile point, scrapers, groundstone, a pecking stone, shaft smoothers, a paint stone, a possible gun flint, other worked stone, animal bone, shell and wood (Smithsonian Institution, River Basin Surveys cataloging form, Paul L. Cooper, May 28, 1954). O. L. Mallory of the Smithsonian Institution, River Basin Surveys visited the site during a shoreline survey in 1964. Mallory collected a decorated sherd, body sherds and an "unfinished point or a small knife" (Smithsonian Institution, River Basin Surveys specimen catalog, O. L. Mallory, 1964).

In 1973, Marvin Kay of the National Park Service, Midwest Archeological Center conducted an archeological reconnaissance of portions of the reservoir shoreline. At that time the site was undergoing damage through wave action and vandalism (Kay 1973:7). Kay (1973:9) recorded Plains Woodland ceramics on the beach at 39LM27.

In 1983, Augustana College conducted a survey of the west bank of Lake Francis Case. In Area 1, Augustana College recorded a number of rim and body sherds, lithic debitage and bone fragments on the beach (Winham and Lueck 1984:138). Ware types included Talking Crow Straight Rim and Anderson Plain/Sanford Smooth (Winham and Lueck 1984:138). One of two shovel tests at Area 1 produced bone fragments and flakes (Winham and Lueck 1984:139). Cultural material observed in Area 2 included body sherds, bone fragments, lithic debitage, and two catlinite fragments (Winham and Lueck 1984:138). The catlinite fragments and a portion of the lithic debitage was observed on the terrace. The remainder of the cultural material was recorded on the beach. A basin shaped pit was visible in the bank at Area 2 (Winham and Lueck 1984:140). Erosion, vandalism and destruction through recreational use were occurring (Winham and Lueck 1984:140). Augustana College recommended that the site be re-evaluated.

In 1985, Tim Nowak, South Dakota Field Archeologist for the Corps of Engineers inspected 39LM27 "for the purpose of evaluating salvage potential (Transmittal to the Chief, Planning Division from the South Dakota Field Archeologist dated July 25, 1985). Nowak reported that "Although over the last few years a number of burials have been exposed along the beach, there is no extensive cut bank erosion or slumping (Transmittal to the Chief, Planning Division from the South Dakota Field Archeologist dated July 25, 1985). Nowak recommended testing to determine site extent and presence of earlier components.

The 1988 Larson-Tibesar Associates Investigations

Introduction:

The purpose of the 1988 Larson-Tibesar Associates investigations was to determine the age and content of the cultural components, document the integrity of these components, determine the relationship of the components to cultural adaptation through time, and determine site significance. One test unit was excavated in each of the two areas of the site. The placement of the test units was based on information from mapping.

Area 1, Test Unit 2:

Area 1 is located to the east of the unnamed drainage which bisects the site. A map showing the location of Test Unit 2 is presented as Figure 14. Area 1 is approximately 27,940 square meters in size. The boundaries of Area 1 are the same as those determined by Augustana College (Winham and Lueck 1984).

Test Unit 1 was four meters in length and one meter in width. The unit was excavated in two 30 cm levels to a depth of approximately 60 cm.

Level 1 was excavated in a gray clay loam (Figure 15). At the base of this strata, the gray clay loam is intermixed with coarse sand and pebbles. Eight undecorated body sherds, five decorated body sherds, one coarse quartzite primary flake, a piece of coarse quartzite shatter and a Talking Crow Straight Rim rim sherd (see Figure 16a) were recovered from Level 1. Talking Crow ware indicates an Extended Coalescent/Post-Contact Coalescent occupation (Johnson 1980:68).

Level 2 was excavated in a dark gray clay loam with very heavy carbonate mottling (see Figure 15). An undecorated body sherd was recovered from this level.

Area 2, Test Unit 1:

Area 2 is located to the west of the unnamed drainage which bisects the site. A map showing the location of Test Unit 1 is presented as Figure 14. A total of 11,326 square meters is included in this area. The boundaries of this area are the same as those determined by Augustana College (Winham and Lueck 1984). The basin shaped pit in the bank described by Augustana College was not visible at the time of the 1988 investigations.

A Talking Crow Straight Rim rim sherd was collected from the surface near the west end of Test Unit 1 (Figure 16b). Talking Crow ware indicates an Extended Coalescent/Post-Contact Coalescent occupation (Johnson 1980:68).

Test Unit 1 was four meters in length and one meter in width. The unit was excavated in three 30 cm levels to a depth of approximately 90 cm.

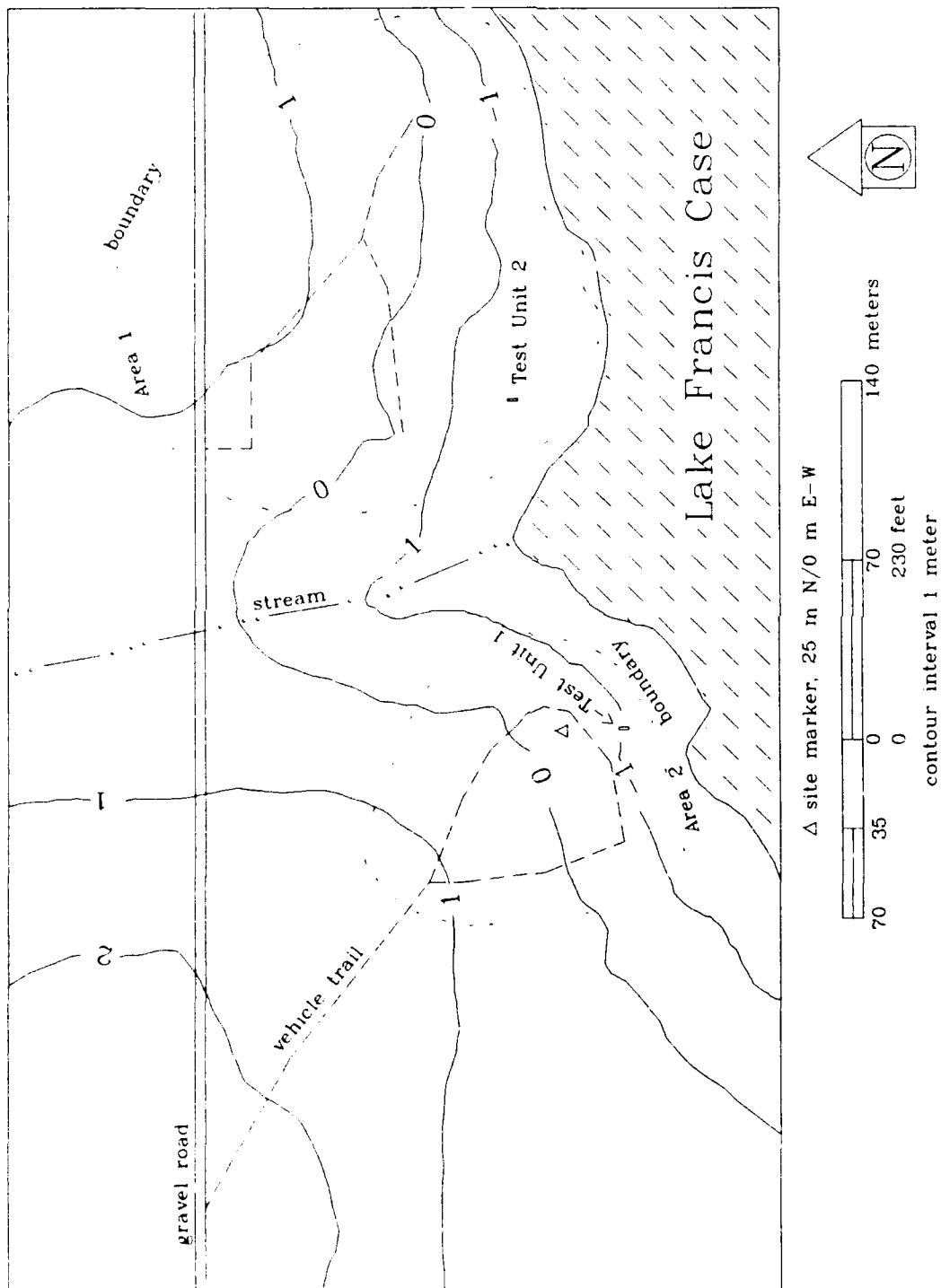


Figure 14. Map of 39LM27.

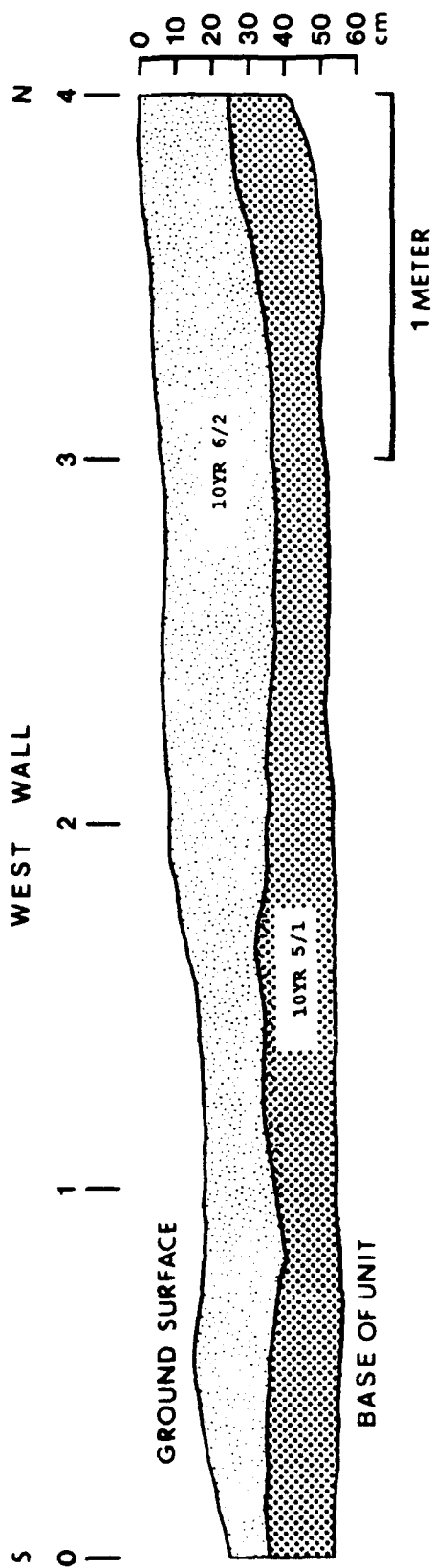


Figure 15. Profile of Test Unit 2, Area 1, 39LM27.



a



b

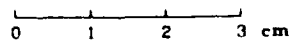


Figure 16. Talking Crow Straight Rim rim sherds from Test Unit 2, Level 1 (a) and from the surface near the west end of Test Unit 1 (b), 39LM27.

Level 1 of the test unit was excavated in a very dark grayish brown fine sandy loam which changed to a dark grayish brown sandy loam near the bottom of the unit (Figure 17). An undecorated body sherd, three fragments of cut shell, a green glass bottle neck with a patent finish, and a metal fragment with a machined hole in the center were recovered from Level 1. The glass bottle neck and metal fragment are probably the result of a reservation era or later occupation of the site.

Level 2 was excavated in the dark grayish brown silt loam and in a yellowish brown silt loam (see Figure 17). No cultural material was recovered from this level.

Level 3 was excavated in a yellowish brown silt loam (see Figure 17). This level was excavated to determine if a second cultural level might be present. No cultural material was recovered from this level.

Discussion

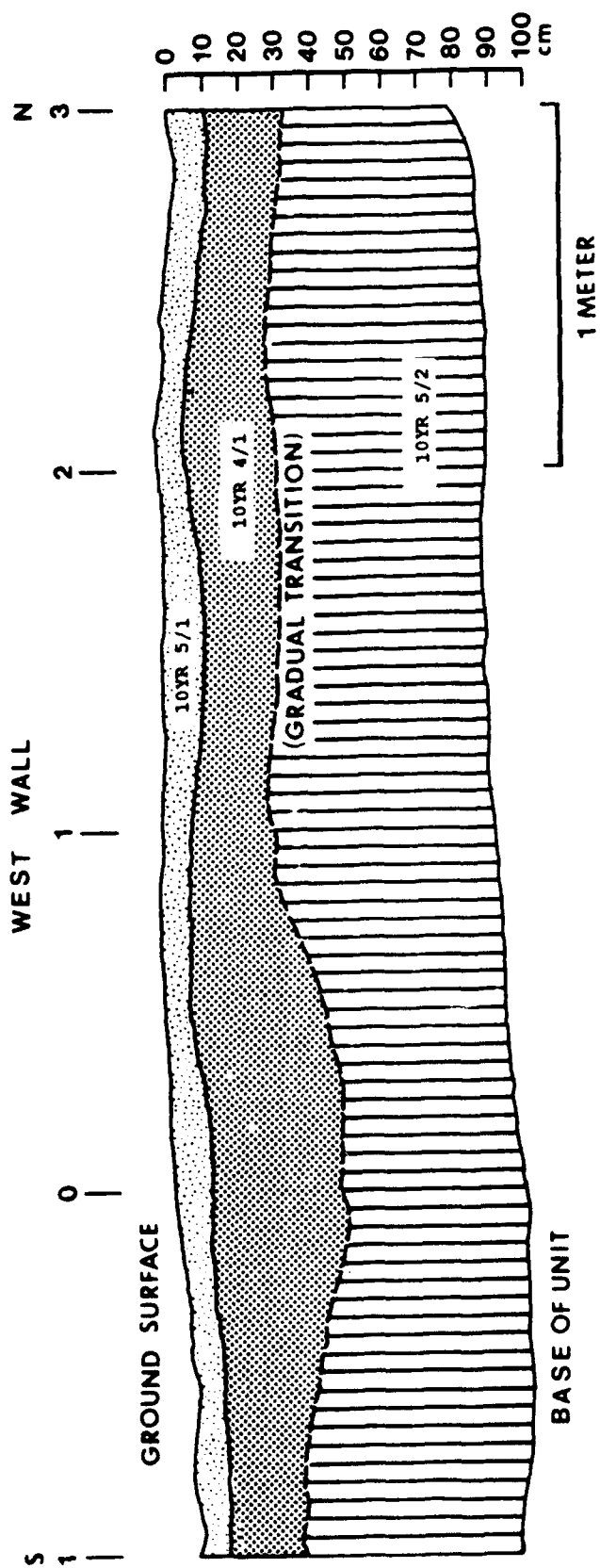
Excavations in Area 1 and Area 2 do not convincingly demonstrate the presence of intact subsurface deposits. Excavation of Test Unit 1 in Area 2 indicates a very limited presence of prehistoric cultural material. The subsurface deposits in this area are apparently intermixed with cultural materials from late nineteenth century occupation of the area. A Talking Crow Straight Rim rim sherd provided a relative date for this area.

Excavation of Test Unit 2 in Area 1 also indicates the limited presence of prehistoric cultural material. A Talking Crow Straight Rim rim sherd provided a relative date for this area.

National Register Eligibility

The paucity of cultural material and lack of features in both Area 1 and Area 2 indicates that little additional information is available that would add to our understanding of prehistory in this region. While two rim sherds assignable to a temporal period(s) were collected, this material by itself is insufficient to date the component. Our understanding of the temporal and cultural placement of this site is based on the results of previous investigations.

The area north of the excavation units has been extensively disturbed by plowing and by recreational activity. This, combined with the paucity of artifacts and lack of features, indicates that 39LM27 lacks integrity. Based on the results of testing, 39LM27 is not believed to be eligible for nomination to the National Register of Historic Places.



VERY DARK GRAYISH BROWN FINE SANDY LOAM. GRANULAR TO PLATEY STRUCTURE. ROOT ZONE, SOIL "A" HORIZON, CONTAINS HISTORIC ITEMS.

DARK GRAYISH BROWN SILT LOAM, MASSIVE STRUCTURE, SOIL "B" HORIZON.

YELLOWISH BROWN SILT LOAM, MASSIVE STRUCTURE, CARBONATE MOTTLING PREVALENT IN LOWER HALF, SOIL "C" HORIZON.

Figure 17. Profile of Test 1, Area 2, 39LM27.

Recommendations

The integrity of 39LM27 has been sufficiently degraded as to preclude obtaining any further information that would enhance our understanding of prehistory. No further work is recommended at this site.

CHAPTER SEVEN
39LM31

Dori M. Penny

Site Description

Site 39LM31 is on a hill approximately 500 m from the last recorded channel of the Missouri River and 12 m above the last recorded floodplain of the Missouri River (Figure 18a). Before the impoundment of the Missouri River, Bice Island was directly across from the site. Elevation of the site area ranges from 417 m (1370 feet) to 436 m (1430 feet) amsl. In 1988, site area was recorded as approximately 7150 square meters in size.

Previous Investigations

Site 39LM31 was initially recorded by Paul L. Cooper of the Smithsonian Institution, River Basin Surveys in July of 1947. At that time, no depressions were visible on the surface, but a scatter of lithic debitage, burned and unburned bone, shell and sherds was observed (Smithsonian Institution, River Basin Surveys site form completed by Paul L. Cooper, July 26, 1954). Cooper recommended further work since it appeared that the site would be inundated or subject to wave action.

H. A. Huscher of the Smithsonian Institution, River Basin Surveys conducted excavations at 39LM31 in August of 1953. Huscher's excavations were conducted in two phases. The first phase involved location of subsurface deposits. A house post in a depression and two midden exposures were located during testing. As a result of these findings, Huscher opened block excavations. While no definite floor was located, a hearth, three postholes and a midden area were found. This area of excavation was renamed House No. 1. Huscher recommended that the entire house be excavated in order to determine the post pattern.

Huscher excavated six other units (Smithsonian Institution, River Basin Survey continuation form completed by H. G. Huscher, August 18, 1953). A map showing the location of Huscher's excavations is presented as Figure 19. Excavation Unit 1 was located where initial testing demonstrated the presence of a post. Excavation Unit 2 was a 1.5 m by 1.5 m (5 feet by 5 feet) square along the terrace edge. The unit was contiguous with a midden exposure. Excavation Unit 3 was also 1.5 m by 1.5 m (5 feet by 5 feet), situated over a midden exposure in the edge of the terrace. Excavation Unit 4 was placed over an exposure of charcoal visible in the bank of the gully. This area proved to be another lodge floor (House 2; see Figure 19). Excavation Unit 5 was on the point of a hill to the west of Huscher's main excavations (see Figure 19). One



a



b

Figure 18. 39LM31, site area, view to the southeast (a) and Feature 2 (b). The tape in (b) is extended 1.5 m.

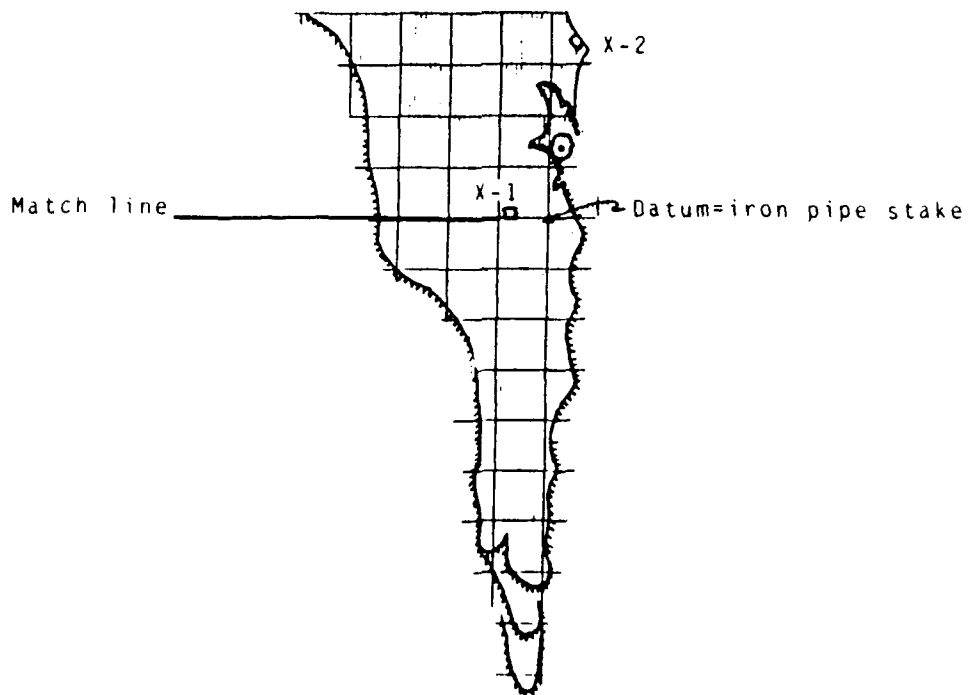
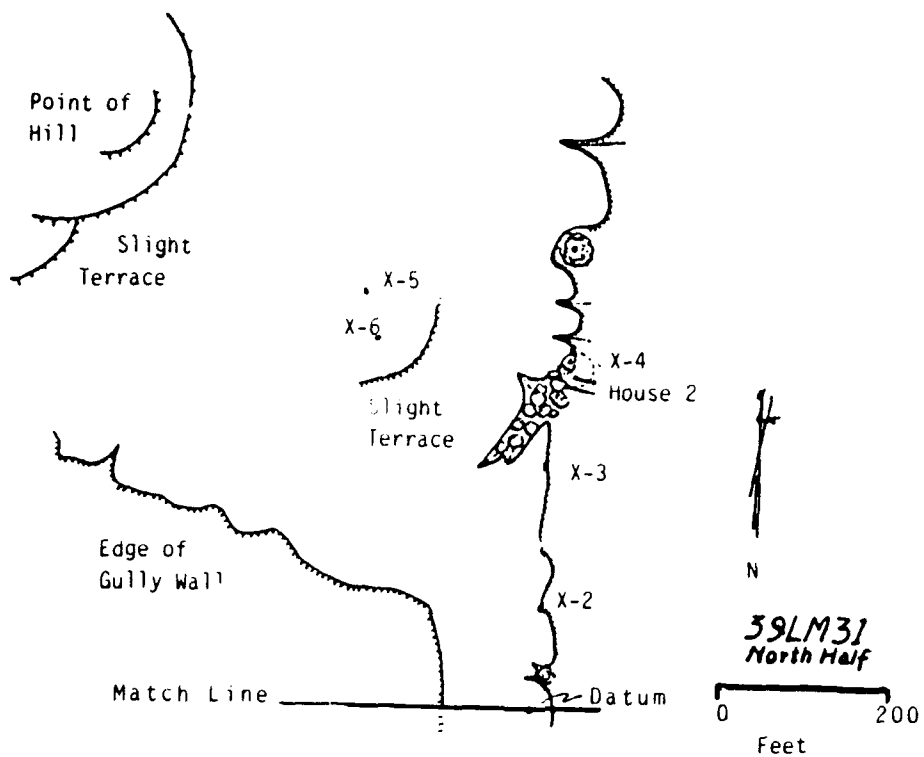


Figure 19. Map of 39LM31 adapted from H. A. Huscher's 1953 Smithsonian Institution, River Basin Survey excavation form.

plain sherd was recovered from this unit. Excavation Unit 6 was south of Excavation Unit 5 on the same hill (see Figure 19). An incised rim sherd, plain and simple stamped body sherds and a square iron nail were recovered from this unit. Huscher suggested that a reservation period house had been located on this point.

Paul L. Cooper of the Smithsonian Institution, River Basin Surveys conducted excavations intermittently through May, June and July of 1954. Cooper excavated two lodge floors, an additional midden area and a number of other features, including a "pocket cache" containing sandstone and pumice abraders in a lodge floor (Smithsonian Institution, River Basin Survey feature form completed by Paul L. Cooper, May-July 1954).

Husted (n.d.) describes the two recognized components at 39LM31 as a prehistoric village of the Shannon focus and a reservation period occupation. The Husted manuscript is not available, but summaries of it are contained in Mallory (1965) and Smith and Grange (1958). This manuscript described a research study using previous collections; a site visit did not take place (Will Husted, personal communication January 1989). The Shannon focus "includes most of the Extended Coalescent manifestations from the Big Bend southward" (Lehmer 1971:120). The Shannon focus was identified from a ceramic assemblage at the Spain site (Hoffman 1968:58). It apparently dates after A.D. 1650 (Hoffman 1968:59).

Marvin Kay of the National Park Service, Midwest Archeological Center visited the site during his reconnaissance of reservoir shoreline areas in 1973. No additional information about 39LM31 is contained in his report of the reconnaissance survey (Kay 1973).

Thomas Haberman attempted to relocate this site in 1982 during an inventory for the Department of Transportation. At that time, he observed some bone on the beach (South Dakota Archaeological Research Center site form update, June 9, 1987). The Corps of Engineers reported that the site was still partially intact in 1984 (South Dakota Archaeological Research Center site form update, June 9, 1987).

Augustana College recorded the site during their 1983 inventory of the west bank of Lake Francis Case (Winham and Lueck 1984). The field crew from Augustana College recorded bone and a Bijou Hills quartzite flake on the beach and body sherds, red ochre, charcoal and Bijou Hills quartzite flakes on the terrace (Winham and Lueck 1984:120). Five of the six shovel tests excavated by the field crew produced cultural material (Winham and Lueck 1984:121).

The 1988 Larson-Tibesar Associates Investigations

Introduction:

The 1988 Larson-Tibesar Associates investigations were intended to establish the age and content of the cultural components, document the integrity of these components, determine the relationship of the

components to cultural adaptation through time and determine site significance. Seventeen shovel tests, a 1 m by 1 m test unit, and a 1 m by 2 m test unit were excavated at 39LM31. The site boundaries were determined based on the results of this testing, the materials found on the beach and the materials exposed in the cutbank.

Shovel Tests:

Each shovel test was approximately 30 cm in diameter. All shovel tests were excavated to a depth of 30 cm. Figure 20 shows the location of the 17 shovel tests. Cultural material was recovered from twelve of the shovel tests. A summary of this material is presented in Table 3. A Grey Cloud Horizontal Incised rim sherd (Figure 21a) was recovered from 00 m N/40 m W and an unidentified rim sherd was recovered from 00 m N/70 m W. Grey Cloud ware is present in Extended Coalescent components (Johnson 1980:61).

Test Units:

A test unit was placed at 13-15 m N/3-4 m W (see Figure 20). It was excavated in 10 cm levels to a depth of 40 cm. The test unit was placed in a depression near the edge of the cutbank (Feature 1; see Figure 20). A dark horizontal band was visible in the cutbank at this location.

Level 1 was excavated in a dark grayish brown loam which changed to a grayish brown loam near the bottom of the level (Figure 22). A small triangular shaped projectile point of chalcedony (Figure 21b), eight flakes, twenty-five undecorated body sherds, five decorated sherds, a piece of cut shell and 5.8 g of unidentifiable bone fragments were recovered from Level 1. The projectile point dates to the Late Prehistoric. A description of the flakes is provided in Table 4.

Level 2 was excavated entirely in a grayish brown loam (see Figure 22). A core, eight flakes (see Table 4), thirty-five undecorated body sherds, an Iona Indented rim sherd (see Figure 21c), three decorated sherds, a Talking Crow Straight Rim strap handle (see Figure 21d) and 29.1 g of unidentifiable bone fragments were recovered from Level 2. An indeterminate large mammal bone fragment was also recovered. Iona Indented and Talking Crow wares date to the Extended Coalescent/Post-Contact Coalescent (Johnson 1980:67-68).

Level 3 was excavated entirely in a grayish brown loam (see Figure 22). Seven flakes (see Table 4), thirty-eight undecorated body sherds, eight decorated sherds and 63.3 g of unidentifiable bone fragments were recovered from this level.

Level 4 was excavated into a grayish brown loam and a yellowish brown clay loam (see Figure 22). Four flakes (see Table 4), five undecorated body sherds, one decorated sherd, two pieces of cut shell and 72.7 g of unidentifiable animal bone fragments were recovered from this level. A *Bison bison* mandibular premolar and a *Canis* sp. maxillary

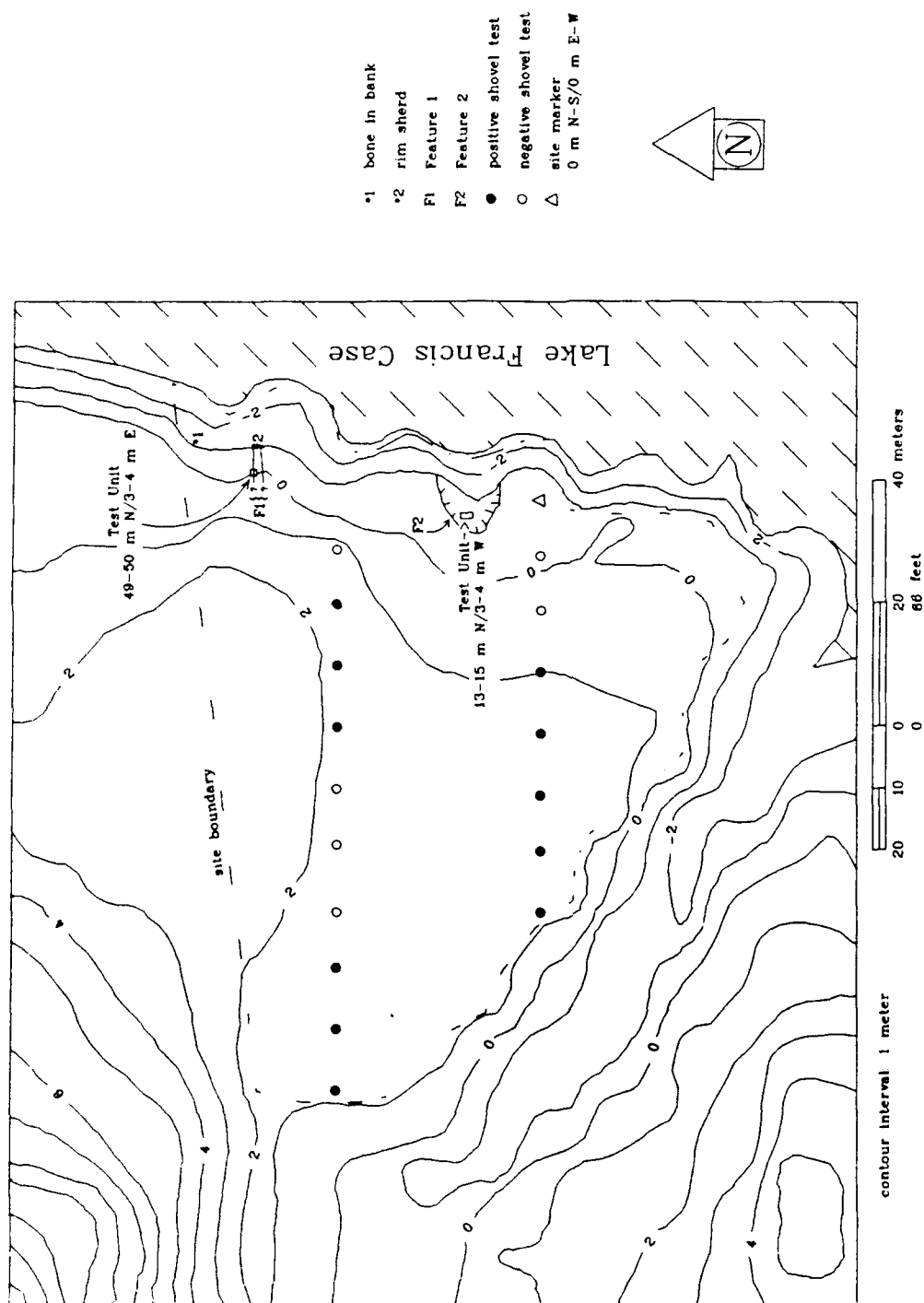


Figure 22. Profile of 13-15 m N/3-4 m W, 39LM31.

Table 3. Summary of cultural material recovered from shovel tests, 39LM31.

Artifact Type	00 m N/30 m W		00 m N/40 m W		00 m N/50 m W		00 m N/60 m W		00 m N/70 m W		35 m N/20 m W
	#	Wt. (g)	#	Wt. (g)	#	Wt. (g)	#	Wt. (g)	#	Wt. (g)	#
flake(s)	1	1.4	3	15.7	0	0.0	0	0.0	0	0.0	0
undecorated body											
sherd	0	0.0	5	3.6	1	1.7	1	.6	0	0.0	0
rim sherd	0	0.0	1	.	0	0.0	0	0.0	1	.	0
decorated sherd	1	2.4	0	0.0	0	0.0	0	0.0	0	0.0	0
unidentifiable bone											
fragment(s)	.	4.4	.	.1	1	.8	.	0.0	.	0.0	.

(continued)

Artifact Type	35 m N/20 m W		35 m N/30 m W		35 m N/40 m W		35 m N/80 m W		35 m N/90 m W		35 m N/100 m W	
	Wt. (g)	#	Wt. (g)	#	Wt. (g)	#	Wt. (g)	#	Wt. (g)	#	Wt. (g)	#
flake(s)	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
undecorated body												
sherd	0.0	2	2.6	1	1.3	2	1.0	0	0.0	1	1.9	0
rim sherd	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
decorated sherd	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
unidentifiable bone												
fragment(s)	.6	.	5.2	.	.2	.	0.0	.	3.2	.	0.0	.

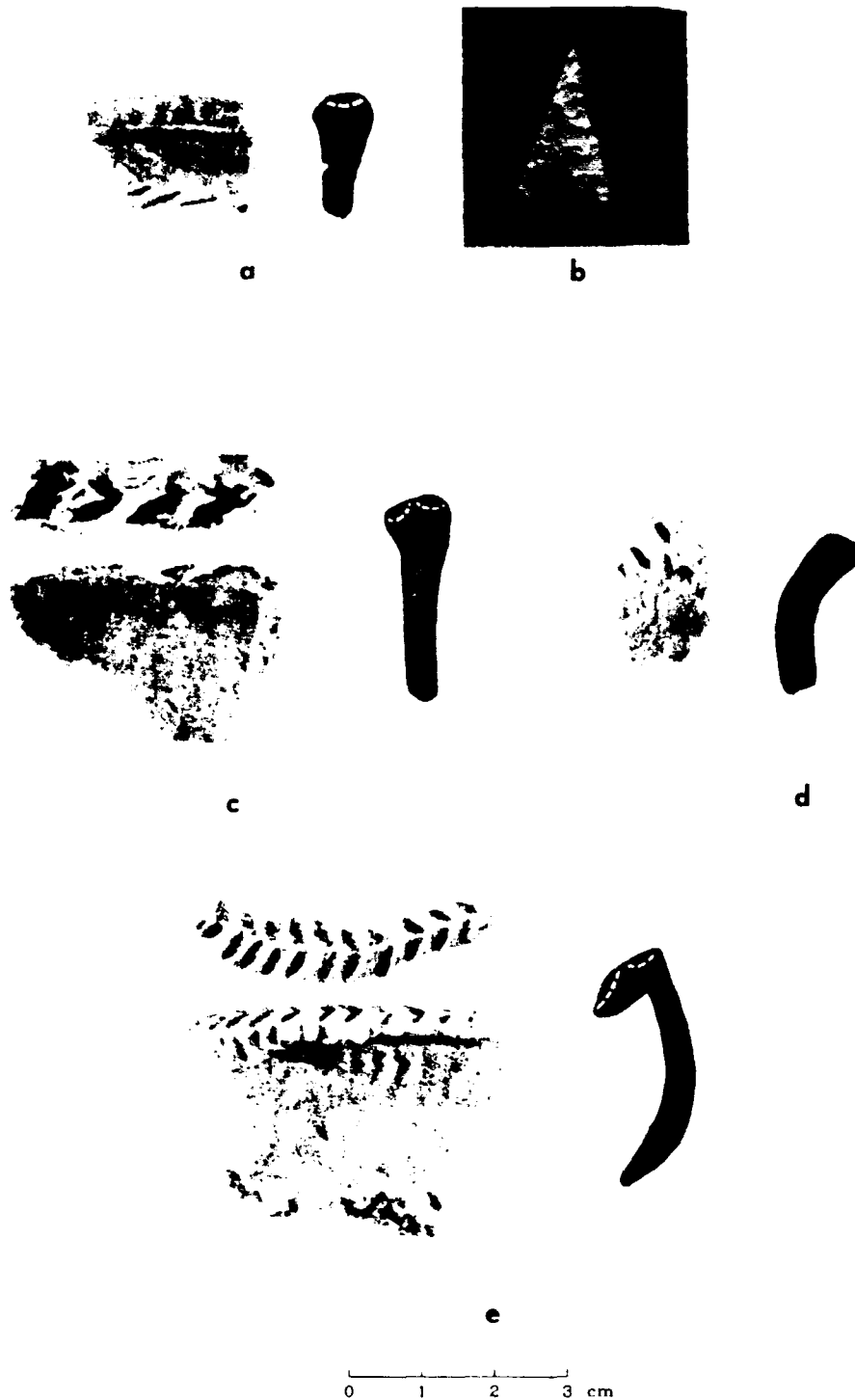
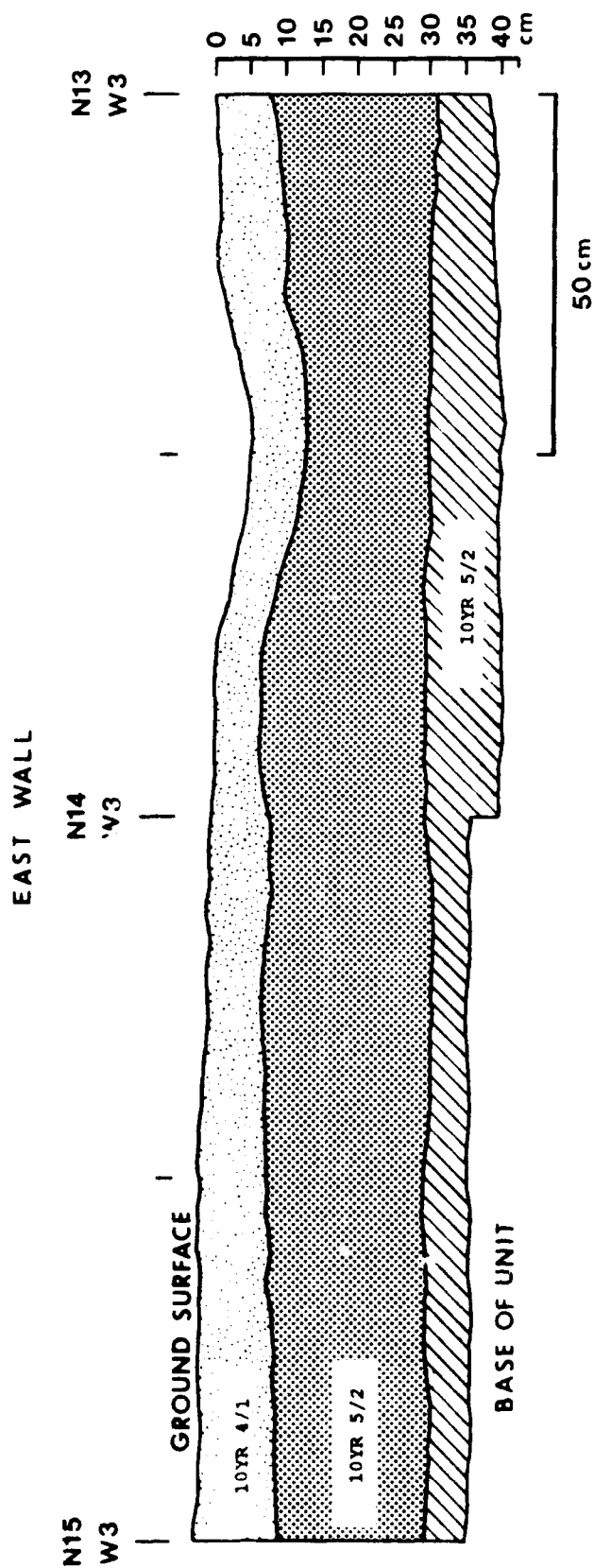


Figure 21. Artifacts from 39LM31; Grey Cloud Horizontal Incised rim sherd (a), triangular projectile point (b), Iona Indented rim sherd (c), Talking Crow Straight Rim rim sherd (d), and Iona Indented rim sherd (e).



DARK GRAYISH BROWN LOAM, COMPACT, FINE GRANULAR TO PLATY STRUCTURE, ROOT ZONE, CONTAINS SMALL PIECES OF CERAMICS AND BONE.

GRAYISH BROWN LOAM, VERY COMPACT, BLOCKY TO COLUMNAR STRUCTURE, NUMEROUS DESSICATION CRACKS, MAIN CULTURE ZONE.

YELLOWISH BROWN CLAY LOAM SOME SAND AND FINE PEBBLES (MOSTLY HEMITIC AND YELLOW SANDSTONE), MOIST VERY COMPACT MASSIVE STRUCTURE, MOTTLED WITH CARBONATES. BELOW CULTURAL ZONE.

Figure 22. Profile of 13-15 m N/3-4 m W, 39LM31.

Table 4. Description of lithic debitage from 13-15 m N/3-4 m W, 39LM31.

	LEVEL 1				LEVEL 2	
	Size Grade				Size Grade	
	3		4		2	
	secondary	tertiary	shatter	tertiary	secondary	tertiary
Morrison/gray Tongue River silicified sediment	0	1	0	0	0	0
Bijou Hills quartzite	0	0	0	1	0	1
fossiliferous chert	0	0	0	0	0	0
chert	0	0	1	0	1	1
agate/chalcedony	0	2	1	0	0	0
scoria	1	0	0	0	0	0
diorite	0	0	0	0	0	0
quartz crystal	0	1	0	0	0	0
						(continued)
	LEVEL 2		LEVEL 3		LEVEL 4	
	Size Grade		Size Grade		Size Grade	
	3		2		3	
	tertiary	primary	tertiary	tertiary	shatter	primary
Morrison/gray Tongue River silicified sediment	0	0	0	0	0	0
Bijou Hills quartzite	1	0	2	1	1	0
fossiliferous chert	0	0	0	2	0	0
chert	0	0	0	0	0	0
agate/chalcedony	4	1	0	0	0	0
scoria	0	0	0	0	0	0
diorite	0	0	0	0	0	1
quartz crystal	0	0	0	0	0	0
						(continued)
	LEVEL 4					
	Size Grade					
	3		4			
	tertiary	tertiary				
Morrison/gray Tongue River silicified sediment	0	1				
Bijou Hills quartzite	1	0				
fossiliferous chert	0	0				
chert	0	0				
agate/chalcedony	1	0				
scoria	0	0				
diorite	0	0				
quartz crystal	0	0				

premolar fragment were also recovered from this level.

The second test unit was located at 49-50 m N/3-4 m E (see Figure 20). The unit was excavated in seven 10 cm levels to a depth of approximately 70 cm. It was located immediately west of the cutbank over Feature 2 (see Figure 20). Feature 2 appears to be a ditch or pit-like feature which is visible in the cutbank (see Figure 18b). An Iona Indented rim sherd (see Figure 21e) was removed from the exposed portion of this feature. Iona ware dates to the Extended Coalescent/Post-Contact Coalescent (Johnson 1980:67).

Level 1 was excavated in a very dark grayish brown sandy clay (Figure 23). A fossiliferous chert tertiary flake, size grade 3, a piece of chalcedony shatter, size grade 2, a piece of chalcedony shatter, size grade 3 and 0.5 g of unidentifiable bone were recovered from this level.

Level 2 was excavated in a grayish brown sandy clay (see Figure 23). A piece of chalcedony shatter, size grade 2, was recovered from this level.

Level 3 was excavated entirely in the grayish brown sandy clay (see Figure 23). At the contact with the loess deposits, the unit was narrowed in order to excavate only within the fill that comprised the feature (see Figure 23). No artifacts were recovered from this level.

Level 4 was excavated in the grayish brown sandy clay. At 37 cm, an ash deposit was encountered. A slope from south to north in the side of the feature was clearly discernible in this level. No artifacts were recovered.

The width of the feature continued to diminish in Level 5. The top of the level was excavated in ash. Just below the ash, a very hard grayish brown soil was encountered, followed by another lamination of ash. No artifacts were recovered from this level.

Level 6 was excavated in the ash and in the grayish brown sandy clay (see Figure 23). The feature continued to narrow in this level. No artifacts were recovered.

Level 7 was excavated in the ash and in a very compact gray soil (see Figure 23). The feature continued to narrow to the extent that further excavation was not possible. No artifacts were recovered.

Discussion

Shovel testing at 39LM31 indicated that subsurface materials are present for a distance of approximately 80 meters west of the cutbank. The area behind the cutbank appears to be undisturbed. One temporally diagnostic artifact was recovered from 00 m N/40 m W. This Grey Cloud Horizontal Incised rim sherd indicates the presence of an Extended Coalescent component. This age is in agreement with the results of other assessments (Lehmer 1971:117).

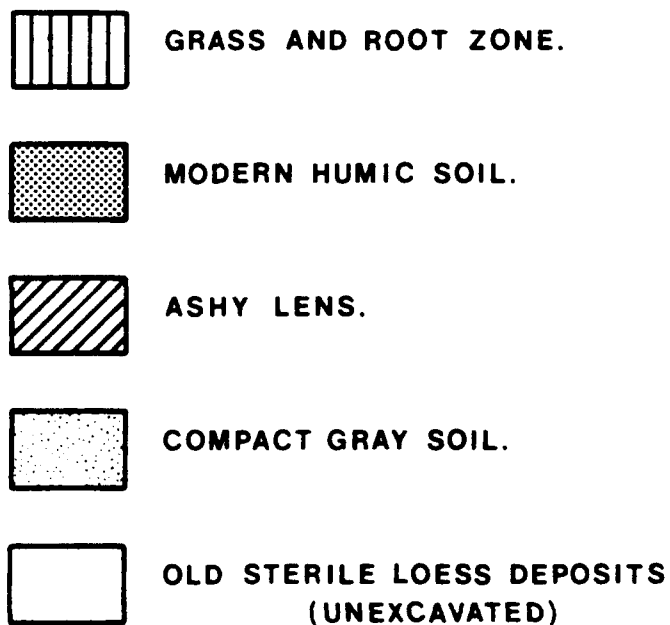
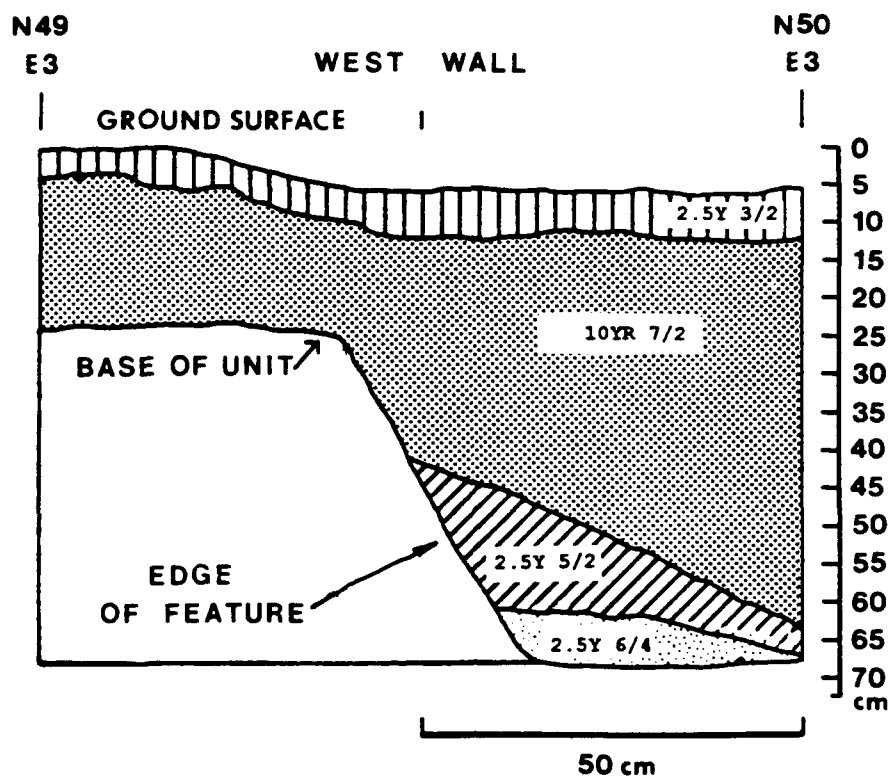


Figure 23. Profile of 49-50 m W/3-4 m E, 39LM31.

A dark horizontal band in the cutbank and a depression on the surface were observed in the vicinity of Test Unit 13-15 m N/3-4 m W. No additional indications of this feature were observed during excavation. Huscher and Cooper both noted the difficulty of identifying and "following" features in this soil during their excavations (Smithsonian Institution, River Basin Survey excavation forms and continuation sheets from the 1953 Huscher excavations and the 1954 Cooper excavations). Three temporally diagnostic artifacts were recovered from 13-15 m N/3-4 m W. These artifacts indicate a site occupation during the Extended Coalescent/Post-Contact Coalescent.

The test unit at 49-50 m N/3-4 m E was excavated over what appears to be a pit or a ditch which is also exposed in the cutbank. The portion of the feature investigated during testing did not contain the amount of cultural material typical of a cache pit. While surface evidence and aerial photos indicate that Feature 2 is probably not a fortification ditch, its actual function was not determined. An Iona Indented rim sherd was removed from inside the feature outline in the cutbank. This artifact dates the use of the feature to the Extended Coalescent/Post-Contact Coalescent (Johnson 1980:67).

National Register Eligibility

In order to assess the National Register of Historic Places eligibility of 39LM31, a series of research questions were posed. Research Domain 1 deals with site function, age and cultural affiliation. Information obtained from previous investigations (e.g., H. A. Huscher in 1953 and P. L. Cooper in 1954) indicates that 39LM31 is an Extended Coalescent village. Other investigators have indicated that it should be assigned to the Shannon focus (Husted n.d.; Mallory 1965). Two features were excavated during the 1988 investigations. Feature 1 may be the remains of a lodge floor. Feature 2 is a possible cache pit or ditch visible both in the cutbank and in excavation. Other features undoubtedly exist in the area west of the cutbank.

The 1988 Larson-Tibesar Associates investigations did not recover samples suitable for submission for radiocarbon dating. Five artifacts were recovered which provide relative dates. A Grey Cloud Horizontal Incised rim sherd (Extended Coalescent), two Iona Indented rim sherds (Extended Coalescent/Post-Contact Coalescent), a Talking Crow Straight Rim strap handle (Extended Coalescent/Post-Contact Coalescent) and a Late Prehistoric projectile point were recovered from 39LM31. Since cultural deposits exist in other areas of the site, it is likely that radiocarbon datable materials are also present, as well as more artifacts that are datable by relative means.

Cooper's 1954 excavations included a lodge floor that had been constructed over a midden. This midden may indicate that the site was occupied over an extended period of time, although Lehmer (1971:116) believes that most Extended Coalescent villages were occupied for a short time. A comparison of 39LM31, 39LM204 and other excavated Extended Coalescent villages in this region might provide new

information about the location, function and occupants of Extended Coalescent villages that appear to have been occupied with varying intensities.

Insufficient information is available to determine the cultural affiliation of this site. Hoffman (1967:59) argues that Shannon focus, which is based on a distinctive ceramic assemblage, is not a discrete type. Detailed ceramic analysis of Extended Coalescent and Lower Loup assemblages is one of the research topics suggested by Buechler (1984:51) in the *Management Plan for Archaeological Resources in South Dakota*. This topic might be pursued if other excavations are conducted at 39LM31.

Research Domain 2 deals with site extent. Huscher's site map, presented as Figure 19, and the Larson-Tibesar Associates map, presented as Figure 20, provide a rough estimate of the area lost to erosion since the impoundment of the Missouri River. A comparison between Huscher's map, the 1988 Larson-Tibesar Associates site map and the 1952 Oacoma, South Dakota 7.5' U.S.G.S. quadrangle indicates that approximately 9,700 square meters have been destroyed since 1953. Site extent at the time of the 1988 testing was approximately 7150 square meters.

Research Domain 3 pertains to culture change and adaptation. Subsurface deposits at 39LM31 have provided significant information about Extended Coalescent occupations in the Big Bend region. Through additional excavation and comparison with other Extended Coalescent sites in the Big Bend region, 39LM31 has the potential to significantly add to our understanding of the variation in village size and intensity of occupation during the Extended Coalescent.

Research Domain 4 deals with the assessment of site significance. Because the site has provided and has the potential to provide additional information about age, function, and culture change and adaptation through time, 39LM31 is believed to be eligible for nomination to the National Register of Historic Places.

Recommendations

The cutbank at 39LM31 appears to be rapidly eroding as a result of wave action. Immediate action should be taken to excavate the features along the cutbank and consideration should be given to a stabilization plan for the remainder of the site.

CHAPTER EIGHT

39LM204

Dori M. Penny and Thomas K. Larson

Site Description

Site 39LM204 is located on a terrace above the Missouri River (Figure 24). The site is adjacent to American Crow Creek. Prior to the impoundment of the Missouri River, Bice Island was to the south of the site. Much of the site area is now inundated for a portion of the year. Elevation ranges from approximately 411 to 417 m (1350 to 1370 feet) amsl. The site is approximately 3 m above the last recorded location of the floodplains of the Missouri River and American Crow Creek.

Previous Investigations

H. A. Huscher recorded 39LM204 in 1953 for the River Basin Surveys. The site was described as a probable earthlodge village, but no other temporal designation was assigned. At that time, pottery, bone and lithics were observed in cultivated areas and eroding from the 415 m (1360 foot) terrace. Huscher collected body sherds, groundstone, lithic tools, and debitage (Smithsonian Institution, River Basin Surveys, site form completed by H. A. Huscher, August 15, 1953). Much of this material was located on the western side of an unnamed drainage near the earthen dam (shown in Figure 24). A second area was identified east of this drainage between the 411 m (1350 foot) and the 415 m (1360 foot) contour lines. A "spotty" scatter of historic material was also observed at the time of the Huscher inventory. Historic materials collected by Huscher include an iron bar fragment, square nails, metal (zinc) fragments, glass fragments, china and crockery fragments, and a number of trade beads (Smithsonian Institution, River Basin Surveys site form completed by H. A. Huscher, August 15, 1953). Huscher noted that the area where the artifacts appeared in densest concentration was clearly definable on a 1939 aerial photograph (Smithsonian Institution, River Basin Surveys, site form completed by H. A. Huscher, August 15, 1953). Huscher recommended trenching and excavation of at least one lodge. He also noted that the site would be impacted by wave action and destroyed at maximum flood pool level.

In 1954, Paul L. Cooper initiated excavations at 39LM204. While Cooper apparently illustrated the locations of his excavations on maps and aerial photos, Larson-Tibesar Associates were not able to locate copies of either the maps or the aerial photos. Twelve test units averaging 0.9 m by 0.9 m (3 by 3 feet) and one trench were excavated. Eleven of the test units were located along the terrace edge in Area 1. Based on Cooper's written information, "Area 1" is in the eastern



a



b

Figure 24. Views of the southwestern (a) (view to east) and central (b) (view to south) portions of 39LM204.

portion of the site. The test units in Area 1 consistently produced flecks of charcoal and small bone fragments. A single sherd was recovered from a depth of 10 cm (.3 feet) in Test Unit 11. A sterile gumbo was encountered between 33 and 52 cm (1.1 and 1.7 feet) (Smithsonian Institution, River Basin Surveys feature form completed by Paul L. Cooper, July 22, 1954).

Area 2 is located within the western portion of the site. A single bone fragment was observed during excavation of the test unit in Area 2. The trench excavated in Area 2 measured .9 by 5.2 m (3 by 17 feet). Bone fragments, charcoal and pottery sherds were recovered to a depth of .36 m (1.2 feet). Most of this material appears to have been located between .17 and .34 m (0.55-1.1 feet). Cultural materials cataloged from this concentration included body sherds, lithic debitage and animal bone fragments. Body sherds, animal bone fragments and a bone shaft wrench were collected from the level immediately below this concentration (Smithsonian Institution, River Basin Surveys continuation form, completed by Paul L. Cooper, July 22, 1954).

The 1964 River Basin Surveys party lead by O. L. Mallory relocated 39LM204 and noted that some damage from wave action had occurred. However, much of the site was still above the water. Most of the cultural material observed at this time was eroding from rodent burrows. Mallory noted that this seemed to indicate that artifact recovery would be high. Rim sherds, decorated sherds, body sherds, projectile points, knives and scrapers were collected during the 1964 site visit (Smithsonian Institution, River Basin Surveys continuation form completed by O. L. Mallory, 1964).

Lehmer (1971:117) assigns 39LM204 to the Extended Coalescent. This assessment is probably based on the information collected by Huscher and Cooper for the River Basin Surveys.

In 1982, Tim Nowak, Area Archeologist for the Corps of Engineers relocated 39LM204. Nowak noted that bone, lithics and ceramics were exposed along the shoreline and at least 91 m (300 feet) back from the shoreline. In his report of this inventory, he noted that the site represented an extensive occupation of the Coalescent tradition (Project Transmittal, T. Nowak, May 26, 1982).

In 1983, Augustana College recorded the site during their west bank survey of Lake Francis Case (Winham and Lueck 1984). At 39LM204, they recorded five areas of prehistoric and historic cultural material concentrations. Their recommendations included testing to establish site boundaries and the nature of the subsurface deposits (Winham and Lueck 1984:133).

The 1988 Larson-Tibesar Investigations

Introduction:

The 1988 Larson-Tibesar Associates investigations at 39LM204 were oriented towards documenting the extent of the site, the age and content of the cultural components, the relationship of these components to cultural adaptation through time, and site significance. As part of this effort, a total of four test units were excavated at 39LM204. These test units were located based on the information obtained from the site mapping process. A map of the site is presented as Figure 25. The boundaries illustrated on this map vary somewhat from those determined by Augustana College. Larson-Tibesar Associates found cultural material which linked together Augustana's Areas B-D, but failed to find anything on the beach area referred to by Augustana as Area A. Testing proved to be impossible within Area A (see Test Unit 4).

Since a historic component had been identified at this site by previous investigators, a series of General Land Office (GLO) plats for this area was obtained and inspected for historic features. The earliest available GLO plat, dated January 2, 1869, representing an 1868 land survey, does not include the area west of the Missouri River. This area would have been within the Great Sioux Reservation. A March 12, 1877 GLO plat shows the subdivisions of the sections for the west side of the river, but does not illustrate any other information. A GLO plat dated March 17, 1887 does not include the area west of the Missouri River. In 1889, the Great Sioux Reservation was reorganized and large areas of land were made available for homesteading by Euroamericans (Schell 1975:322-324). The GLO plat dated February 23, 1891, shows seven occupied buildings within the site area and twenty-two occupied buildings immediately adjacent to the site area. None of these buildings are labeled. A road and a bridge are also illustrated. The road crosscuts the northeastern quarter of the site. The bridge is located on American Crow Creek immediately north of the site area. Details from the GLO plats dated February 4, 1895 and January 18, 1898, show the subdivision of lots, the location of the bridge and the location of some of the occupied buildings. Two of the occupied buildings immediately adjacent to the site area are identified as having Brule occupants.

Test Unit 1:

Test Unit 1 was excavated at the location of a concentration of artifacts consisting of lithic debitage, bone fragments, bison teeth and a body sherd (see Figure 25). The test unit was excavated in three 30 cm levels to a depth of approximately 90 cm. It measured four meters in length and one meter in width.

One Bijou Hills quartzite tertiary flake, size grade 1, two Bijou Hills quartzite primary flakes, size grade 2, one undecorated body sherd and one unidentifiable bone fragment were recovered from Level 1 (0-30 cm). This level was excavated in a dark brown loam which was mixed with small pebbles near the bottom of the unit (Figure 26).

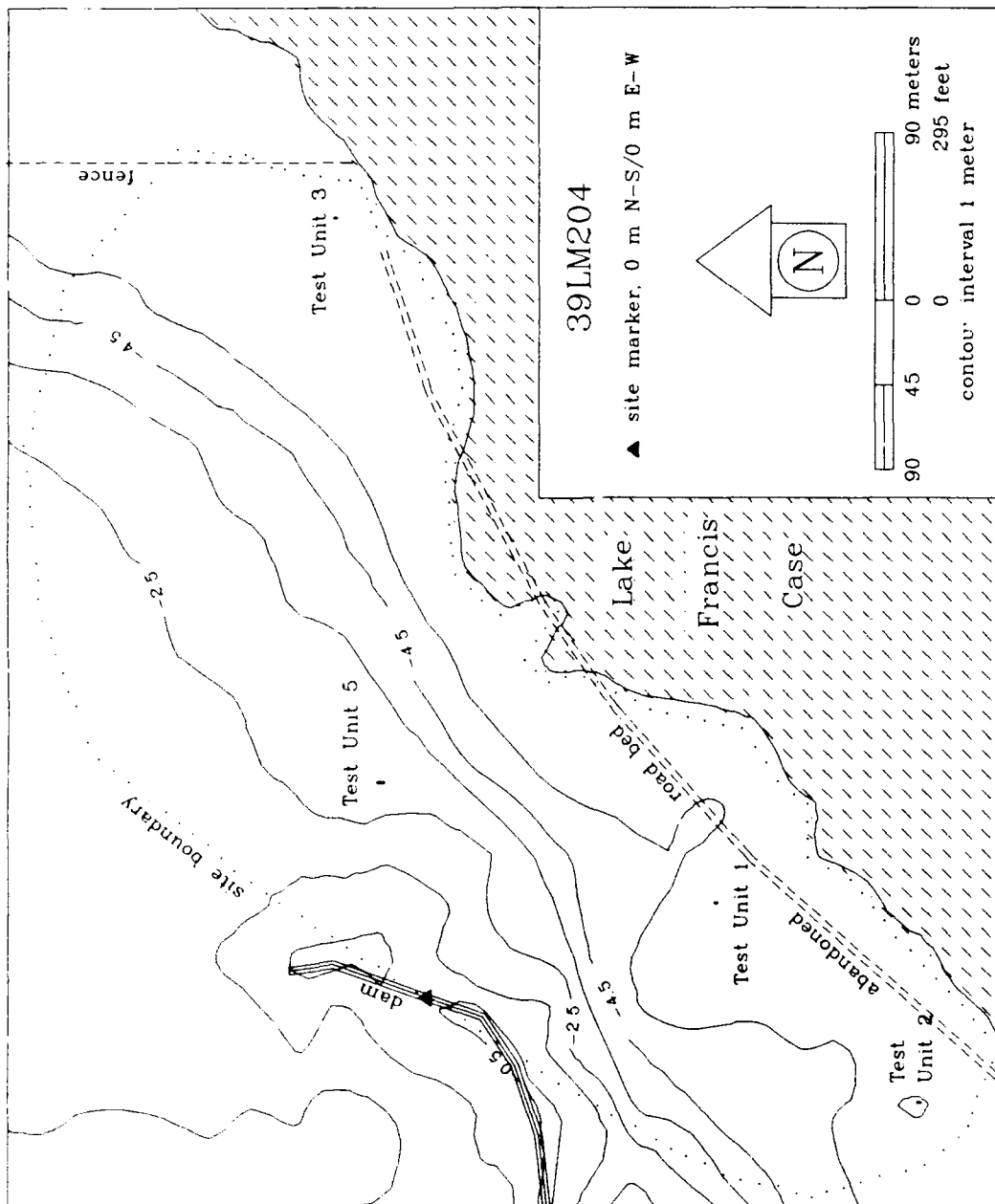
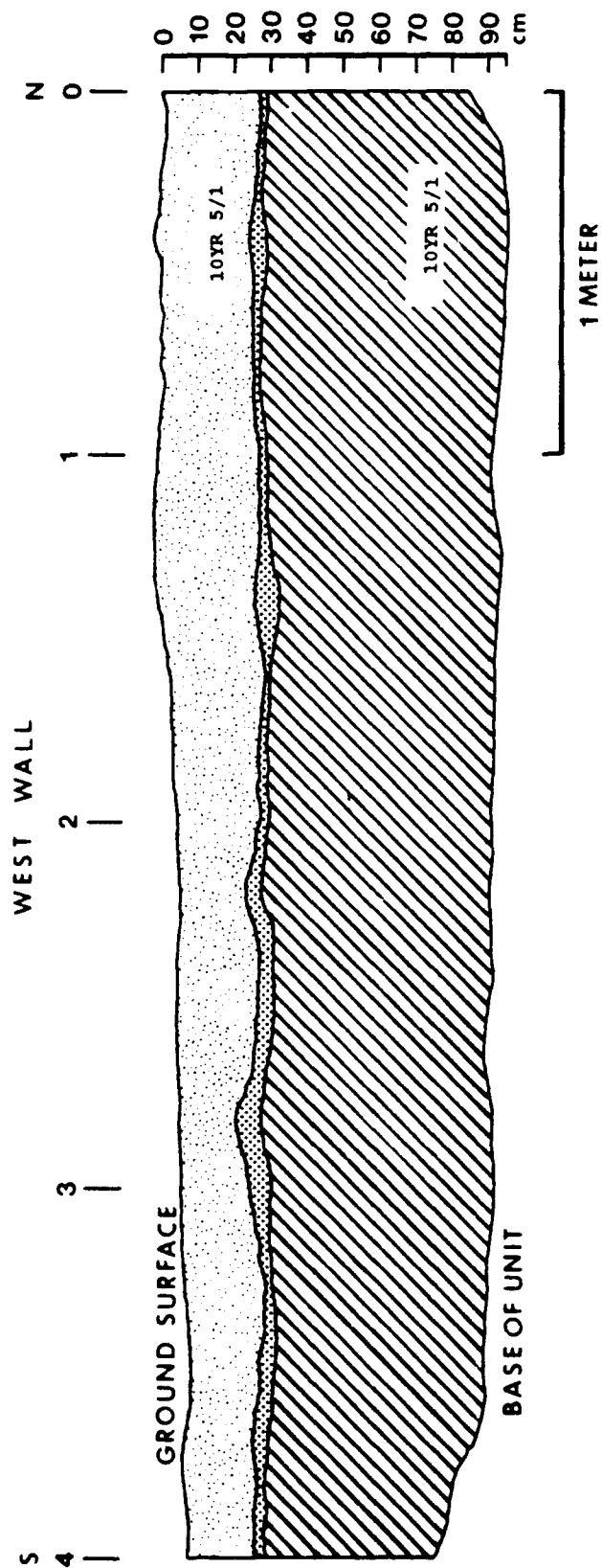


Figure 25. Map of 39LM204.



DARK BROWN LOAM, COMPACT, GRANULAR STRUCTURE.

DARK BROWN LOAM, CONTAINS VERY SMALL PEBBLES, VERY THIN LENS, UNCONFORMITY.

VERY DARK BROWN CLAY LOAM, MOIST, MASSIVE STRUCTURE.

Figure 26. Profile of Test Unit 1, 39LM204.

Two unidentifiable bone fragments were recovered from Level 2 (30-60 cm). The majority of Level 2 was excavated in a very dark brown clay loam, with the exception of the very top of the level (ca. 30 cm) which was excavated at the contact with the dark brown loam intermixed with very small pebbles.

Level 3 (60-90 cm) was excavated entirely in the very dark brown clay loam. No cultural material was observed during excavation of this level.

Test Unit 2:

Test Unit 2 was excavated at the location of a concentration of lithic debitage and body sherds (see Figure 25). This test unit was four meters in length and one meter wide. It was excavated in three 30 cm levels to a depth of approximately 90 cm.

The majority of cultural material from this test unit was recovered from Level 1 (0-30 cm). Cultural material collected from Level 1 included a Cadotte Collared rim sherd, a Talking Crow Straight Rim rim sherd, a piece of basalt shatter, size grade 3, a fire-cracked rock, three undecorated body sherds, a decorated sherd, three unidentifiable bone fragments, one glass fragment and one crockery fragment. Cadotte and Talking Crow wares (Figure 27a) are associated with the Extended Coalescent and Post-Contact Coalescent variants. For approximately the first 10 cm Level 1 was excavated in a gray sand intermixed with pebbles. Below the gray sand, the level was excavated in a dark gray clay loam (Figure 28).

Two metal fragments were recovered from Level 2. It is presumed that the historic artifacts in both Levels 1 and 2 represent some type of intrusion by the reservation era and later occupations of the site area. As previously stated, this area was intensively occupied by the last decade of the nineteenth century. Level 2 was excavated in three different strata (see Figure 28).

No artifactual material was recovered from Level 3 (60-90 cm). Level 3 was excavated entirely in a grayish brown clay loam.

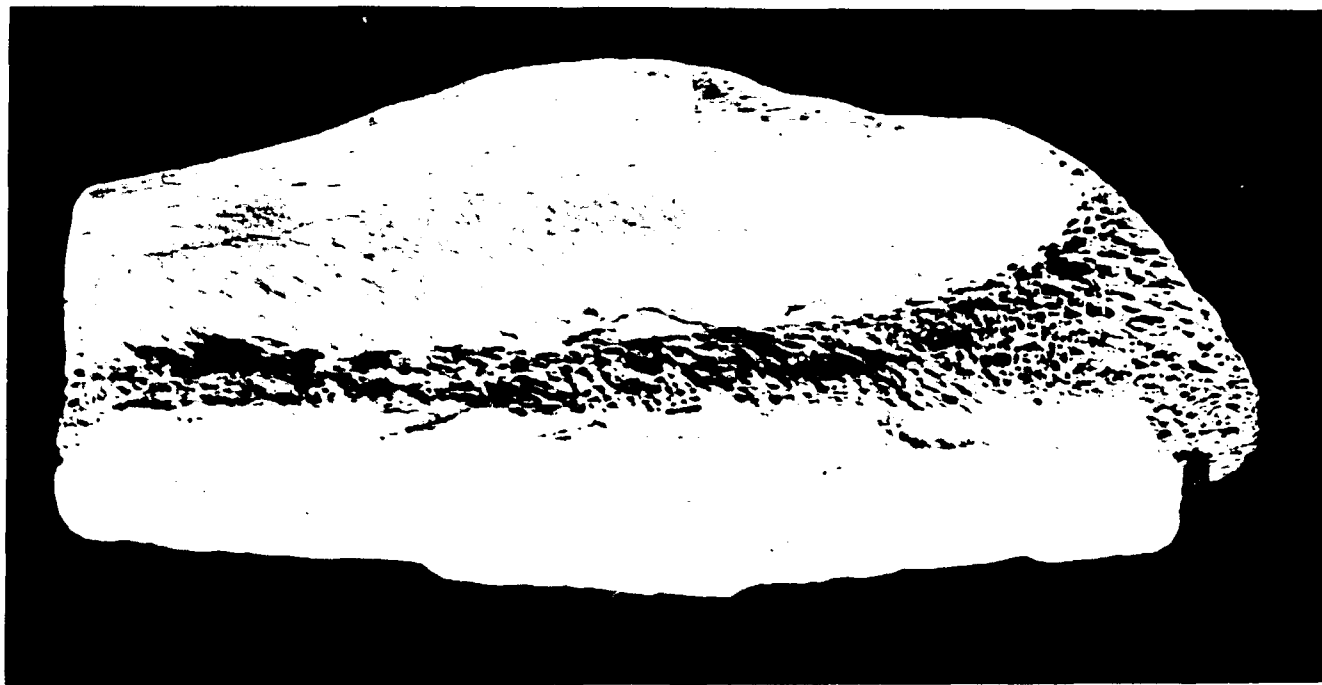
Test Unit 3:

Test Unit 3 was excavated off the beach, adjacent to a concentration of artifacts on the beach (see Figure 25). A scapula knife from this concentration is illustrated in Figure 27b. The unit was excavated to a depth of approximately 90 cm and measured four meters in length and one meter wide.

The first 10 cm of this unit were excavated in a grayish brown clay loam which has been reworked by wave action (Figure 29). The remainder of Level 1 (0-30 cm) was excavated in a grayish brown clay loam. A single animal bone fragment was recovered from Level 1. This bone fragment is unidentifiable as to species or element.



a



b

0 1 2 3 cm

Figure 27. Talking Clow Straight Rim rim sherd from Test Unit 2 (a) and scapula knife (b) from Test Unit 3, surface, 39LM204.

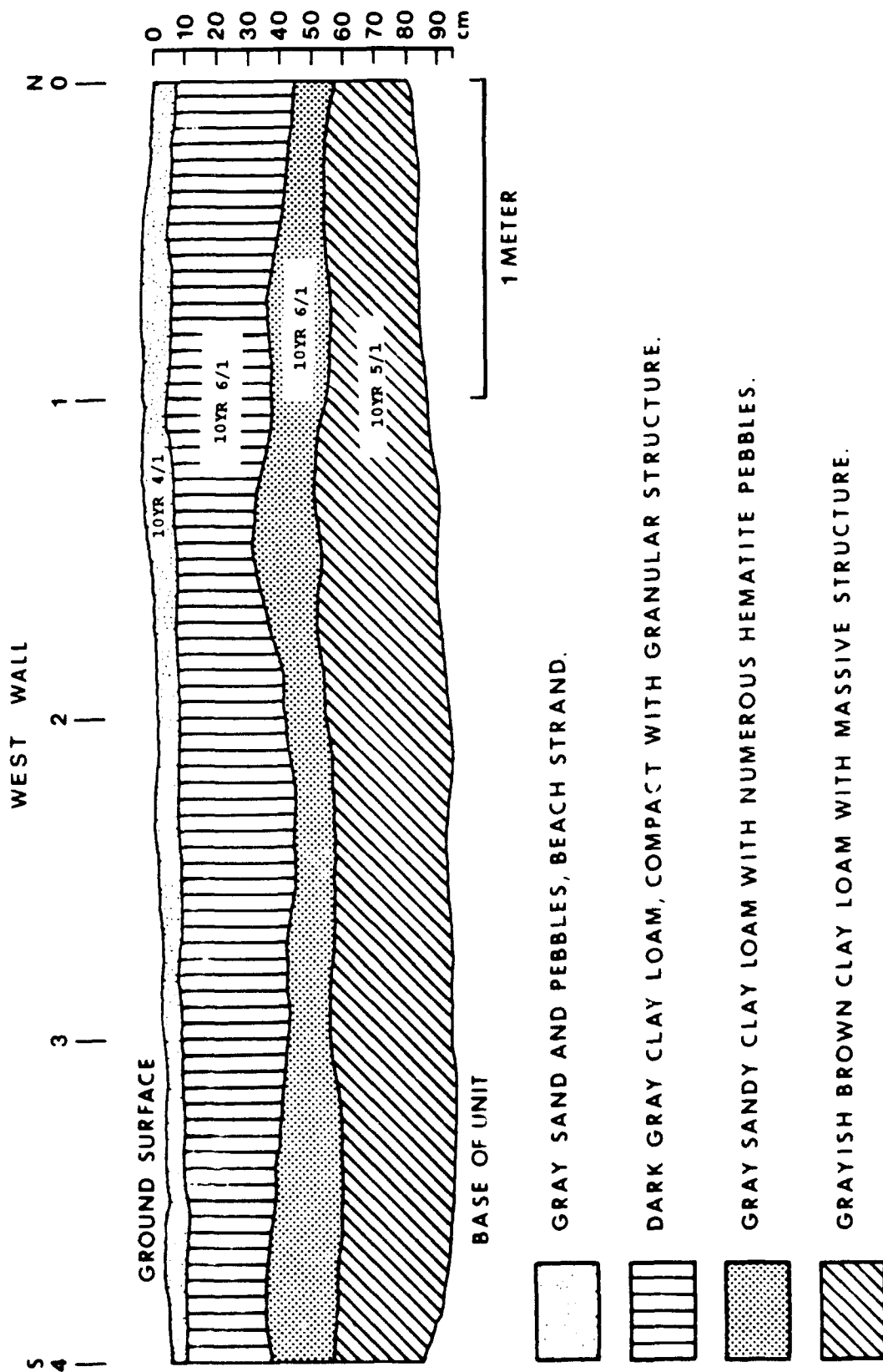


Figure 28. Profile of Test Unit 2, 39LM204.

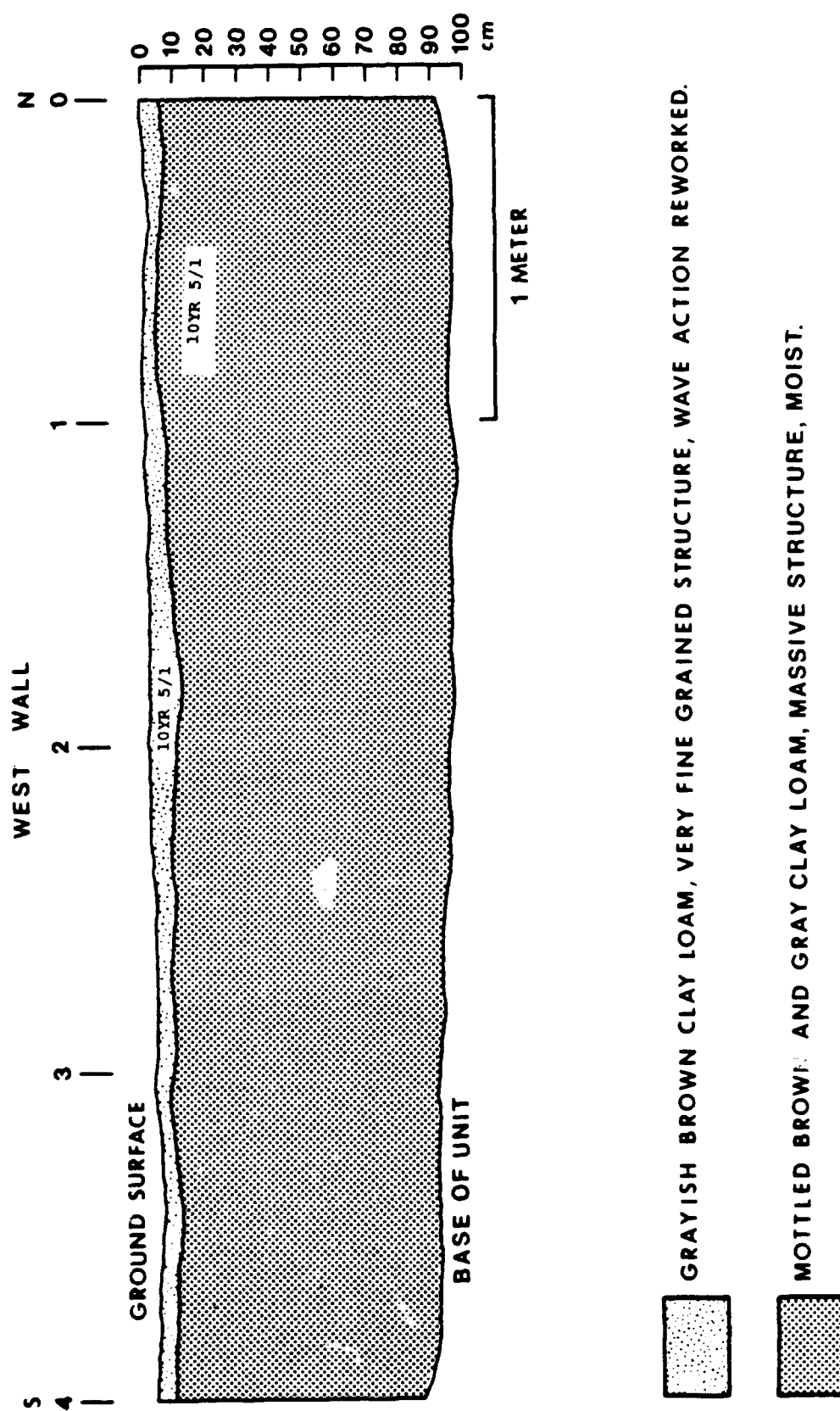


Figure 29. Profile of Test Unit 3, 39LM204.

No cultural material was observed during the excavation of Levels 2 and 3. Both were excavated in a mottled brown and gray clay loam.

Test Unit 4:

Test Unit 4 was to be located on the beach. Testing on the beach was to determine if intact subsurface cultural deposits exist in an area of the site that is subjected to wave action and is inundated for part of the year. This test unit proved impossible to excavate due to the saturation of the soil and the proximity of the water table to the surface.

Test Unit 5:

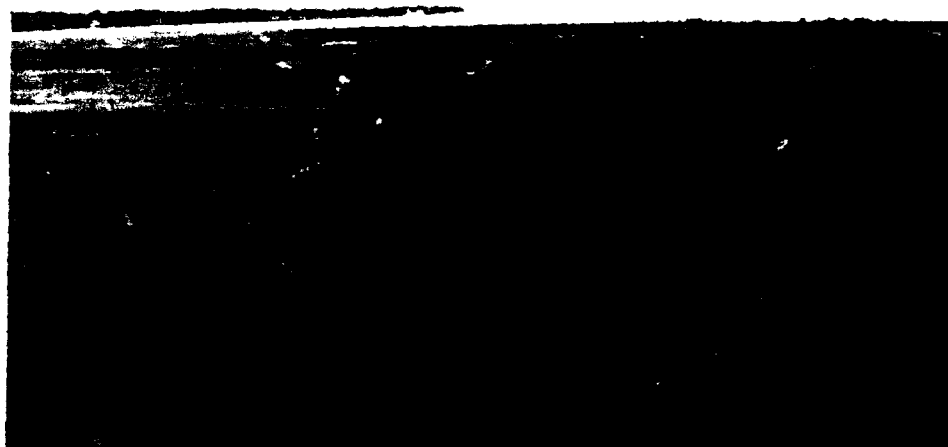
Test Unit 5 was excavated to a depth of approximately 106 cm. The test unit was eight meters in length and one meter in width. It was located near the southwestern edge of a large prairie dog town, which may be the same area mentioned by Mallory in 1964 (Figure 30a). A large amount of cultural material was observed eroding from the burrows during the mapping of this area of the site.

Table 5 is a summary of all the cultural material except identified faunal material recovered from Test Unit 5. Identified faunal material is listed in Table 6.

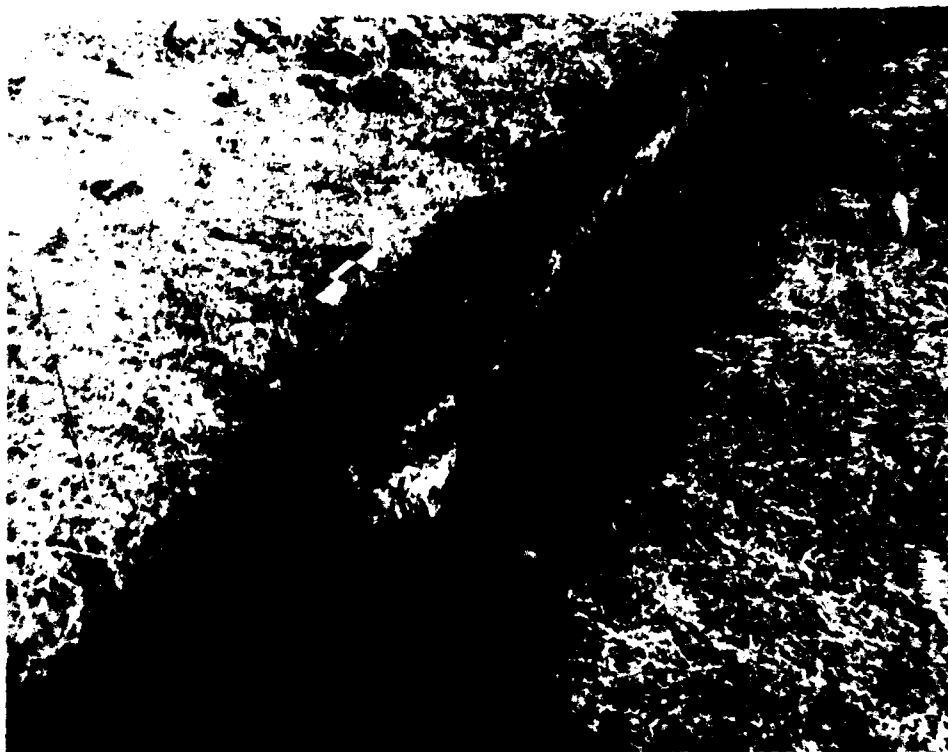
Level 1 (0-30 cm) was excavated in a gray clay loam (Figure 31). Tools, lithic debitage, fire cracked rock, daub, pecked/ground stone, an abrader, a large number of undecorated body sherds, decorated body sherds, rim sherds, strap handles from ceramic vessels, scapula knives, an awl, a fragment of a bone prepared for the groove and snap technique of bead manufacture, cut shell, unidentifiable bone fragments, a piece of charred wood, and a glass fragment were recovered from this level. Two of the bifaces, the abrader, the awl and the groove and snap bone fragment are illustrated in Figure 32. No features were observed.

The single glass fragment from Level 1 is olive green in color and may be the result of intentional modification by an occupant of the site area. It does not have a bulb of percussion, but other attributes such as lines of force and thinned edges that are indicative of a flake are present on this artifact. This artifact would be diagnostic of the Post-Contact Coalescent variant or later occupation of the site. Native American utilization of glass in this area has been documented as late as ca. 1880-1900 (Lees 1985:110).

Identified rim sherds include Talking Crow Straight Rim (n = 33), Cadotte Collared (n = 12), Wheeler Deep Trailed Incised (n = 8), Grey Cloud Horizontal Incised (n = 1), Iona S-Rim (n = 1), and Iona Indented (n = 8). Rim sherds representative of the variation in ware types from this level are illustrated in Figures 33 through 36. Three rim sherds from Level 1 were not identified as to type (see Figure 36). Grey Cloud Horizontal Incised and Wheeler Deep Trailed Incised are identified with the Extended Coalescent Variant (Johnson 1980:57,61). Cadotte and Iona



a



b

Figure 30. Photo with Test Unit 5 shown near the center (a) (view to west) and view of the west wall of Test Unit 5 showing the ash lens (b), 39LM204.

Table 5. Summary of cultural materials recovered from Test Unit 5, 39LM204.

	LEVEL 1			LEVEL 2			LEVEL 3			FEATURE 1			ASH LENS		
	#	Wt. (g)		#	Wt. (g)		#	Wt. (g)		#	Wt. (g)		#	Wt. (g)	
Artifact Type															
projectile point	0	0.0		0	0.0		0	0.0		0	0.0		1	.	
biface	9	.		3	.		0	0.0		0	0.0		1	.	
end scraper	2	.		2	.		0	0.0		0	0.0		0	0.0	
retouched flake	6	.		0	0.0		0	0.0		0	0.0		0	0.0	
core	3	416.4		2	56.8		1	38.3		0	0.0		1	8.4	
flake(s)	120	577.2		72	386.1		10	26.6		11	1.8		223	24.9	
fire-cracked rock(s)	10	793.2		5	458.6		1	2.4		0	0.0		2	244.6	
daub	6	9.6		4	9.8		1	3.3		0	0.0		1	.9	
pecked/ground stone	1	.		1	.		0	0.0		0	0.0		0	0.0	
abrader	1	.		2	.		0	0.0		0	0.0		0	0.0	
shaft smoother	0	0.0		4	.		0	0.0		0	0.0		0	0.0	
undecorated body															
sherd	838	2627.5		729	2337.6		63	196.2		81	20.6		392	253.4	
rim sherd	66	.		61	.		2	.		1	.		6	.	
decorated sherd	78	306.7		125	469.8		4	11.0		0	0.0		0	0.0	
strap handle	2	.		1	.		0	0.0		0	0.0		0	0.0	
lug	0	0.0		1	.		0	0.0		0	0.0		1	.	
scapula knife	3	.		0	0.0		0	0.0		0	0.0		0	0.0	
bone awl	1	6.3		0	0.0		0	0.0		0	0.0		0	0.0	
bone tool fragment	1	5.2		0	0.0		0	0.0		0	0.0		0	0.0	
cut shell	3	3.4		10	24.2		3	1.1		0	0.0		2	.9	
bone bead	0	0.0		1	.2		0	0.0		0	0.0		1	.1	
unidentifiable bone															
fragment(s)	.	2414.6		.	1781.6		.	87.8		.	5.1		.	172.1	
wood	1	.2		0	0.0		0	0.0		0	0.0		0	0.0	
charcoal	0	0.0		0	0.0		0	0.0		1	.8		0	0.0	
glass fragment(s)	1	1.4		0	0.0		0	0.0		0	0.0		0	0.0	

Table 6. Identified bone recovered from Test Unit 5, 39LM204.

LEVEL 1			
Species	Element	Portion	Catalog #
<i>Bison bison</i>	maxillary molar	complete	383
	mandibular molar	complete	380
	mandibular molar	complete	381
	tooth fragment	fragment	382
	lumbar vertebra	proximal diaphysis	415
	lumbar vertebra	proximal diaphysis	416
	sacral vertebra	fragment	404
	caudal vertebra	complete	301
	caudal vertebra	complete	406
	caudal vertebra	fragment	407
	costal cartilage	fragment	369
	rib	blade of rib	400
	scapula	fragment	296
	scapula	fragment	399
	scapula	scapula spine	271
	humerus	complete	409
	humerus	distal end	397
	radius	distal end	299
	metacarpal	proximal end	391
	fifth metacarpal	complete	405
	intermediate carpal	complete	396
	radial carpal	complete	303
	radial carpal	fragment	402
	acetabulum	fragment	398
	femur	diaphysis	270
	calcaneus	complete	384
	lateral malleolus	complete	302
	metatarsal	proximal end	403
	first phalanx	proximal end	297
	first phalanx	proximal end	392
	first phalanx	proximal end	408
	first phalanx	distal end	375
	first phalanx	distal end	393
	first phalanx	distal end	394
	second phalanx	complete	385
	second phalanx	complete	386
	second phalanx	complete	387
	second phalanx	complete	388
	second phalanx	distal end	300
	second phalanx	distal end	414
	third phalanx	proximal end	304
	third phalanx	proximal end	395
	sesamoid	complete	389
	metapodial	distal end	298
	metapodial	distal end	390
	metapodial	diaphysis	379
	long bone	diaphysis	272
	long bone	diaphysis	401
	unidentifiable bone	fragment	305
<i>Antilocapra americana</i>	mandible	articular condyle	370
	unidentified vertebra	spinous process	377
	humerus	distal end	371

Table 6. (cont.).

Species	Element	Portion	Catalog #
<i>Antilocapra americana</i> (cont.)	metapodial	distal end	372
	metapodial	diaphysis	376
	occipital condyle	fragment	378
<i>Odocoileus</i> sp.	radius	proximal end	289
	ulna	proximal end	288
	tibia	distal end	287
	second phalanx	complete	290
<i>Lepus</i> sp.	ilium	fragment	268
<i>Canis latrans</i>	mandible	complete	356
	mandible	fragment	357
	mandible	articular condyle	365
	maxillary premolar	complete	285
	thoracic vertebra	complete	362
	thoracic vertebra	fragment	363
	sacral vertebra	fragment	286
	radius	distal end	358
	ilium	complete	360
	ischium	fragment	361
	tibia	distal end	359
	third metatarsal	complete	364
<i>Canis</i> sp.	mandible	fragment	368
	metapodial	diaphysis	367
artiodactyl	cranial fragment	fragment	294
	cranial fragment	fragment	422
	cervical vertebra	complete	417
	rib	blade of rib	423
	unidentified vertebra	fragment	418
	scapula	fragment	292
	scapula	glenoid of scapula	421
	humerus	distal end	293
	femur	diaphysis	295
	tibia	diaphysis	424
	carpal or tarsal	fragment	420
	petrous portion	fragment	419
<i>Canis</i> cf. <i>latrans</i>	radius-ulna	complete	366
	radius-ulna	complete	366
	fourth metatarsal	proximal end	291
<i>Odocoileus</i> or <i>Antilocapra</i>	unidentified vertebra	proximal diaphysis	274
	tibia	diaphysis	273
indeterminate small mammal	unidentified vertebra	epiphysis	269
indeterminate medium mammal	unidentifiable bone	fragment	411
	basiooccipital	complete	410

Table 6. (cont.).

LEVEL 2

Species	Element	Portion	Catalog
<i>Bison bison</i>	mandible	fragment	314
	mandible	fragment	315
	maxilla	fragment	433
	maxillary molar	complete	432
	maxillary molar	complete	507
	mandibular molar	complete	331
	mandibular molar	complete	508
	hyoid	proximal end	348
	hyoid	fragment	332
	thoracic vertebra	fragment	506
	lumbar vertebra	proximal diaphysis	318
	rib	blade of rib	343
	humerus	distal end	345
	humerus	diaphysis	428
	radius	proximal end	427
	ulnar carpal	fragment	447
	accessory carpal	complete	312
	accessory carpal	complete	445
	femur	distal end	446
	calcaneus	epiphysis	316
	calcaneus	fragment	341
	first phalanx	proximal end	313
	first phalanx	proximal end	444
	first phalanx	tooth row	333
	first phalanx	fragment	334
	first phalanx	fragment	339
	second phalanx	complete	311
	second phalanx	complete	321
	second phalanx	complete	335
	second phalanx	complete	336
	second phalanx	complete	337
	second phalanx	complete	338
	second phalanx	complete	434
	second phalanx	complete	435
	second phalanx	proximal end	436
	second phalanx	proximal end	437
	second phalanx	distal end	438
	third phalanx	complete	340
	third phalanx	complete	440
	third phalanx	complete	441
	third phalanx	proximal end	439
	proximal sesamoid	complete	342
	metapodial	distal end	442
	metapodial	distal end	443
	long bone	fragment	448
	long bone	diaphysis	344
	long bone	diaphysis	412
	unidentifiable bone	fragment	505

Table 6. (cont.).

Species	Element	Portion	Catalog #
<i>Antilocapra americana</i>	humerus	distal end	330
	ilium	fragment	309
	ilium	fragment	310
	calcaneus	complete	317
	first phalanx	proximal end	307
	first phalanx	proximal end	308
<i>Odocoileus</i> sp.	second phalanx	complete	306
	mandible	fragment	429
<i>Sylvilagus</i> sp.	lateral malleolus	complete	430
	ilium	fragment	374
	femur	complete	323
	tibia	distal end	275
	tibia	diaphysis	280
<i>Canis latrans</i>	mandible	fragment	324
	cranial fragment	complete	431
	thoracic vertebra	complete	326
	rib	blade of rib	327
	scapula	proximal end	284
	radius lna	proximal end	325
	radius lna	proximal end	325
artiodactyl	tooth fragment	fragment	319
	long bone	fragment	320
cf. <i>Bison</i>	unidentified vertebra	fragment	346
	second phalanx	distal end	347
<i>Canis</i> cf. <i>latrans</i>	third metatarsal	proximal end	322
<i>Odocoileus</i> or <i>Antilocapra</i>	cranial fragment	fragment	354
	thoracic vertebra	spinous process	349
	caudal vertebra	complete	449
	rib	proximal end	351
	rib	blade of rib	352
	unidentified vertebra	centrum	350
	scapula	fragment	353
	carpal-central and 4th	fragment	355
cf. <i>canid</i>	thoracic vertebra	spinous process	328
	tibia	proximal end	329

Table 6. (cont.).

LEVEL 3			
Species	Element	Portion	Catalog #
<i>Bison bison</i>	incisor	complete	281
	rib	blade of rib	283
	long bone	diaphysis	282
cf. <i>Bison</i>	unidentified vertebra	fragment	279
	radial carpal	fragment	276
	second phalanx	proximal end	277
	second phalanx	distal end	278

ASH LENS			
Species	Element	Portion	Catalog #
<i>Bison bison</i>	horn core	fragment	498
	rib	blade of rib	514
	carpal-central and 4th	complete	500
	carpal-2nd and 3rd	complete	501
	first phalanx	distal end	502
	second phalanx	complete	499
	second phalanx	distal end	503
	long bone	proximal end	504
<i>Antilocapra americana</i>	scapula	proximal end	497
<i>Sylvilagus sp.</i>	mandible	.	483
	mandible	.	484
	mandible	.	485
	mandible	.	486
	mandible	.	487
	maxilla	.	488
	maxilla	.	489
	maxilla	.	490
	cranial fragment	.	479
	incisor	.	450
	incisor	.	451
	incisor	.	491
	unidentified molar	.	452
	thoracic vertebra	.	471
	rib	proximal end	476
	unidentified vertebra	epiphysis	472
	scapula	glenoid of scapula	453
	scapula	glenoid of scapula	454
	humerus	proximal end	460
	radius	diaphysis	467
	ulna	proximal end	455
	ulna	proximal end	456
	ulna	proximal end	457
	ulna	distal end	458
	ulna	diaphysis	459
	carpal	.	469
	fourth carpal	proximal end	475

Table 6. (cont.).

Species	Element	Portion	Catalog #
<i>Sylvilagus</i> sp. (cont.)	acetabulum	.	461
	tibia	distal end	462
	tibia	distal end	463
	tibia	diaphysis	464
	calcaneus	proximal end	473
	second metatarsal	proximal end	477
	third phalanx	.	470
	metapodial	distal end	465
	long bone	diaphysis	474
	fourth metatarsal	proximal end	478
	petrous portion	.	468
	phalanx fragment	distal end	466
<i>Canis latrans</i>	mandible	fragment	496
	maxillary premolar	complete	481
	incisor	complete	482
artiodactyl	unidentifiable bone	fragment	492
indeterminate small mammal	maxillary molar	fragment	480
indeterminate medium mammal	lumbar vertebra	epiphysis	495
	lumbar vertebra	centrum	494
	lumbar vertebra	proximal diaphysis	493
indeterminate fish	cranial fragment	.	517

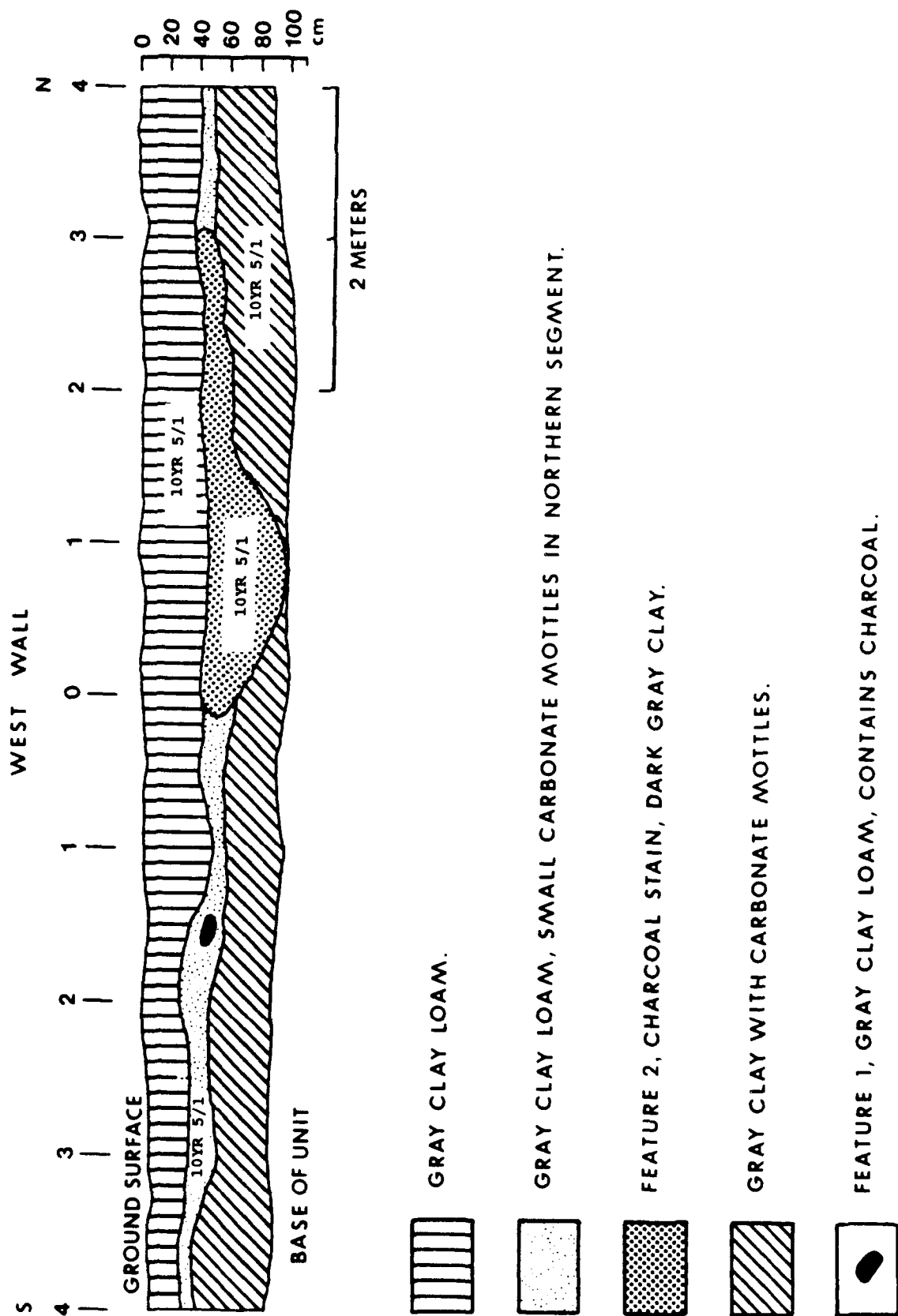


Figure 31. Profile of Test Unit 5, 39LM204.

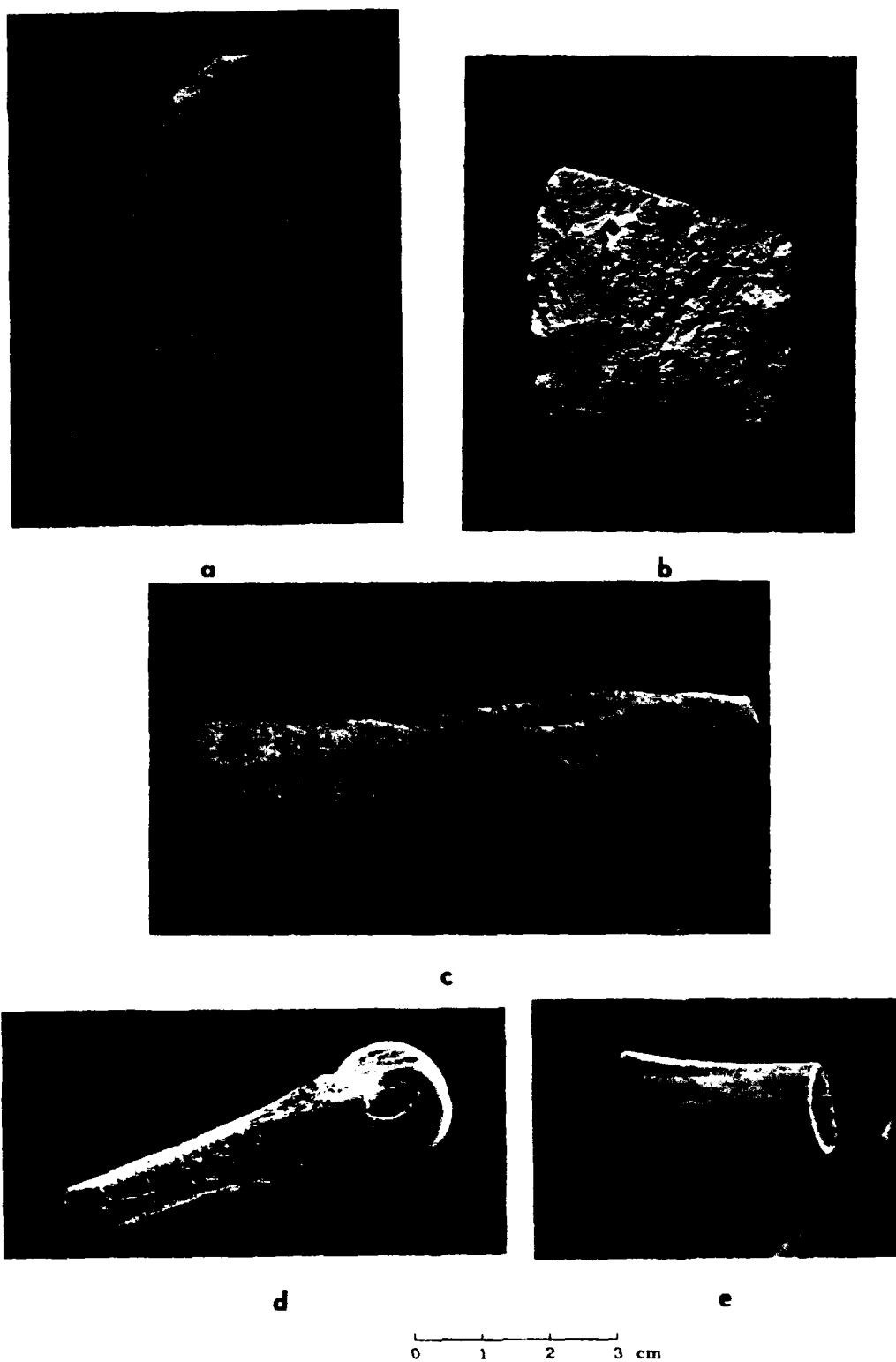


Figure 32. Bifaces (a, b), abrader (c), a-l (d) and groove and snap bone fragment (e) from Test Unit 5, Level 1, 39LM204.



Figure 33. Talking Crow Straight Rim rim sherds from Test Unit 5, Level 1, 39LM204.



Figure 34. Talking Crow Straight Rim rim sherds (a-h, j, k) and loop handle (i) from Test Unit 5, Level 1, 39LM204.

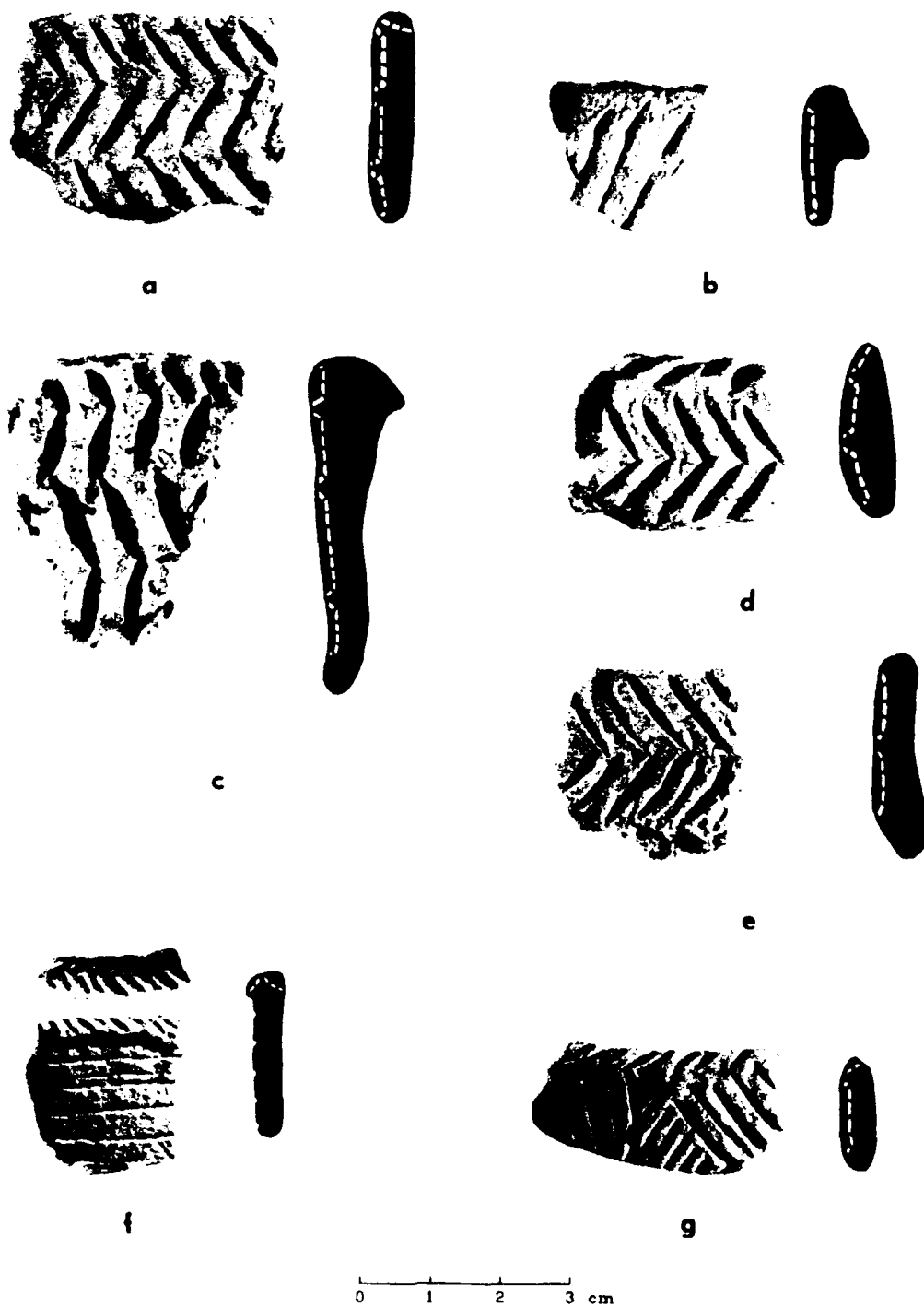


Figure 35. Cadotte Collared (a, b), Wheeler Deep Trailed Incised (c-e), Grey Cloud Horizontal Incised (f), and Iona S-rim rim sherds from Test Unit 5, Level 1, 39LM204.



Figure 36. Iona Indented (a-e) and unidentified rim sherds (f-h) from Test Unit 5, Level 1, 39LM204.

wares are identified with both the Extended Coalescent and the Post-Contact Coalescent variants (Johnson 1980:55,56,67). Talking Crow is identified in both Extended Coalescent and Post-Contact Coalescent variants, but appears to be more common in Post-Contact Coalescent variant components (Johnson 1980:68; Kivett 1958).

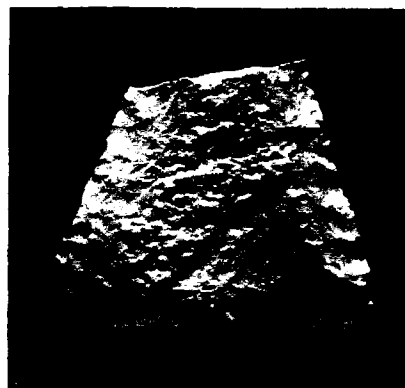
Identifiable bone recovered from this level includes *Bison bison*, *Antilocapra americana*, *Odocoileus sp.*, *Lepus sp.*, *Canis latrans*, *Canis sp.*, and *Canis cf. latrans*. The entire animal is fairly well represented for *Bison bison*, *Antilocapra americana*, *Odocoileus sp.*, and *Canis* (see Table 6). A fetal *Bison bison* humerus and a fetal artiodactyl tibia were among the identifiable bone recovered from this level.

Excavation of Level 2 (30-60 cm) revealed two features indicative of an earthlodge and a large number of artifacts (see Table 5). With the exception of the two features, Level 2 was excavated entirely in a gray clay loam (see Figure 31). An increase in carbonate mottling was observed from south to north. Concentrations of artifactual material were present on either side of the features. Artifacts recovered include bifaces, end scrapers, cores, lithic debitage, fire-cracked rock, daub, pecked/ground stone, abraders, shaft smoothers, undecorated body sherds, decorated body sherds, rim sherds, a strap handle, a lug handle, fragments of cut shell, a bone bead, and unidentifiable bone fragments. Two bifaces and the pecked stone recovered from this level are illustrated in Figure 37. The central pecked area on this stone is stained with red ochre. The shaft smoother and the bone bead are also illustrated in Figure 37. Identified rim sherds from Level 2 include Iona Indented (n = 30), Cadotte Collared (n = 14) and Talking Crow Straight Rim (n = 11) (Figures 38-41). Six rim sherds were not identified to type. Three of these unidentified rim sherds are illustrated in Figure 42. All of the identified wares are associated with the Extended Coalescent and Post-Contact Coalescent (Johnson 1980: 56,67,68).

Identifiable faunal material includes *Bison bison*, *Antilocapra americana*, *Odocoileus sp.*, *Sylvilagus sp.*, *Canis latrans*, and material identified as comparing favorably with one of these species (see Table 6). Included in this material are a fetal *Bison bison* humerus and a fetal *Bison bison* transverse process of a lumbar vertebra.

Lithic debitage and tools indicate the same pattern of usage for the Coalescent as discussed by Ahler (1977). Lithic debitage from Test Unit 5 is summarized in Table 7. The majority of the lithic debitage recovered from Level 2 is manufactured from Bijou Hills quartzite. Also common were agate/chalcedony, quartz crystal and chert (see Table 7).

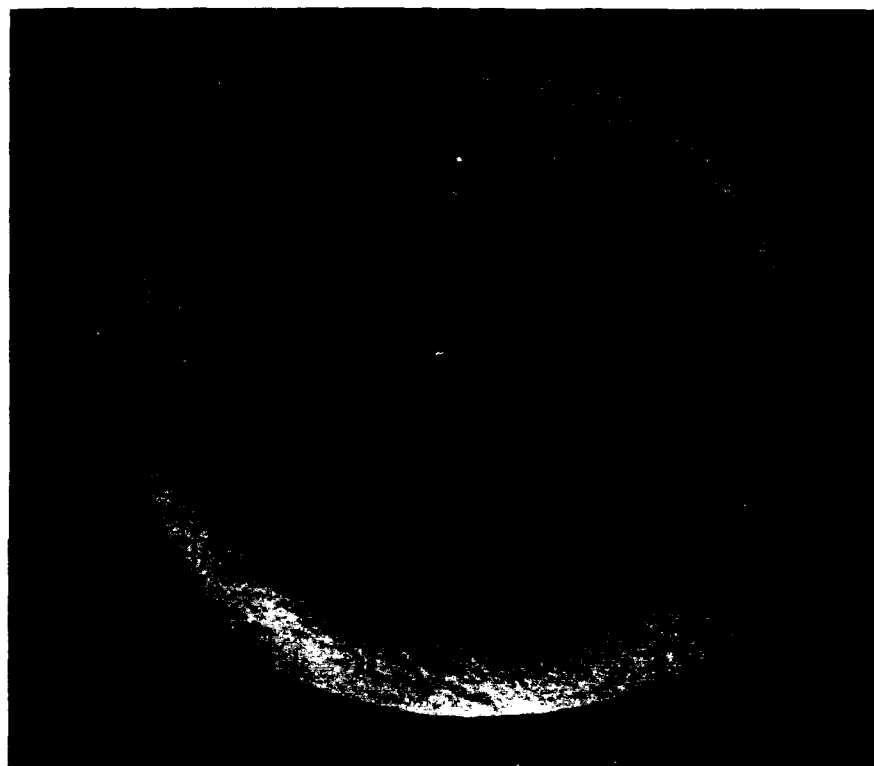
Feature 1 is a charcoal stain located from 1.4 to 1.6 m S at a depth of approximately 60 cm (see Figure 31). A light fraction flotation sample was submitted to Margaret A. Van Ness for identification of macrobotanical remains (see Appendix D). Table 8 lists the seeds and cob fragments identified by Ms. Van Ness in the light fraction sample. The majority of macrobotanical remains identified in this sample are *Zea sp.* cob fragments. These fragments



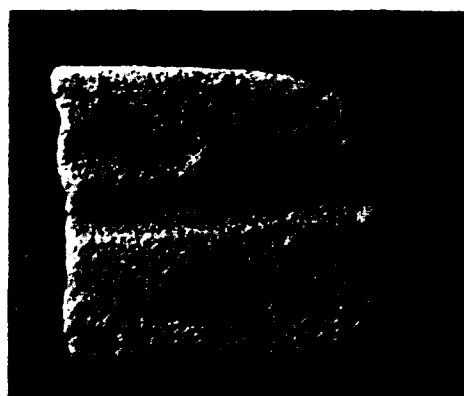
a



b



c



d



e

0 1 2 3 cm

Figure 37. Bifaces (a, b), pecked stone (c), shaft smoother (d) and bone bead (e) from Test Unit 5, Level 2, 39LM204.

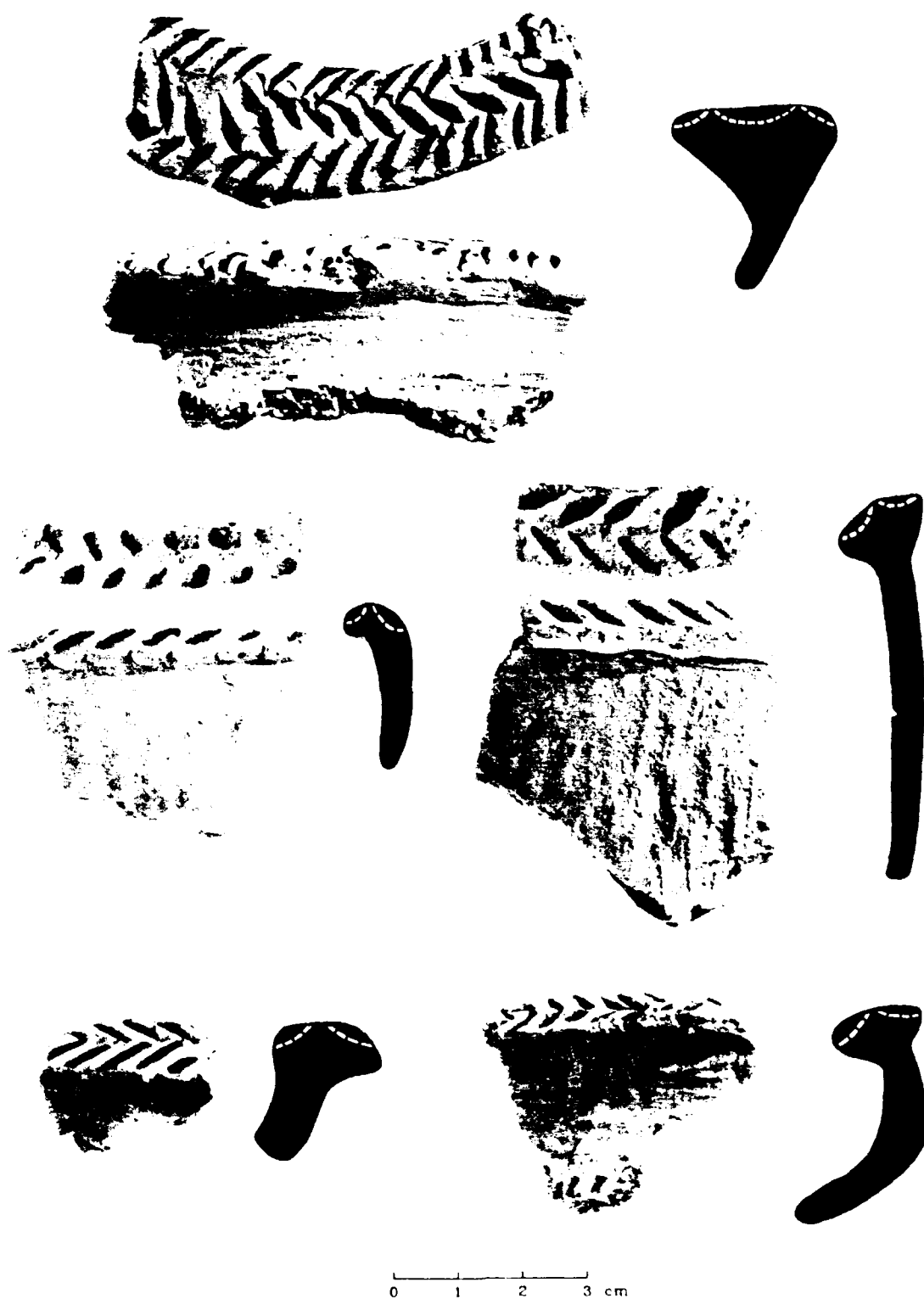


Figure 38. Iona Indented rim sherds from Test Unit 5, Level 2, 39LM204.

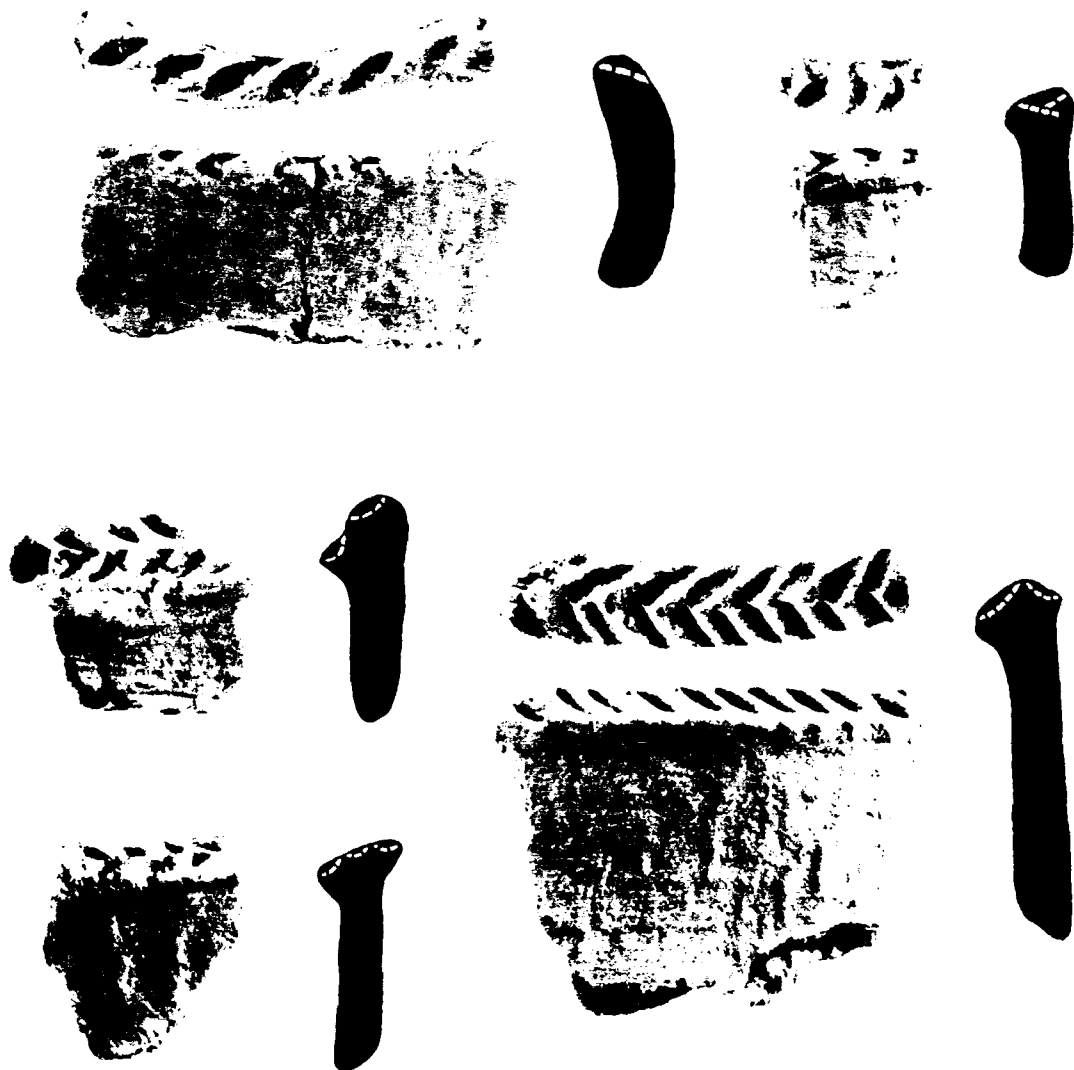


Figure 39. Iona Indented rim sherds from Test Unit 5, Level 2, 39LM204.

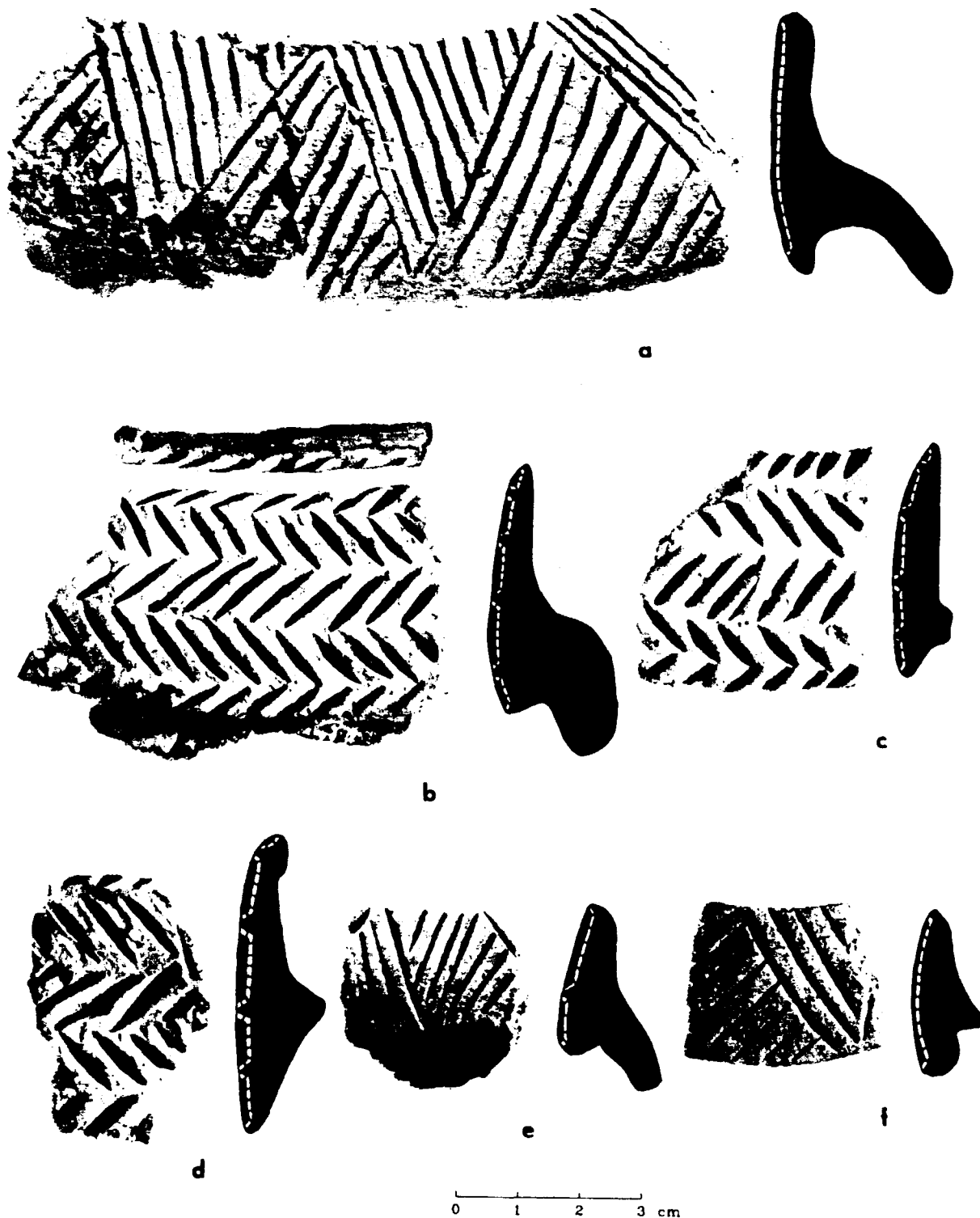
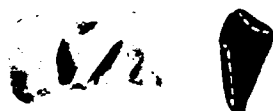


Figure 40. Cadotte Collared rim sherds from Test Unit 5, Feature 1 (a) and Level 2 (b-f), 39LM204.



Figure 41. Talking Crow Straight Rim rim sherds from Test Unit 5, Level 2, 39LM204.



0 1 2 3 cm

Figure 42. Unidentified rim sherds from Test Unit 5, Level 2, 39LM204.

Table 7. Lithic debitage from Test Unit 5, 39LM204.

LEVEL 1											
Size Grade											
1											
2											
3											
4											
Primary	tertiary	shatter	primary	secondary	tertiary	shatter	primary	secondary	tertiary	shatter	tertiary shatter
Knife River flint	0	0	0	0	0	0	0	0	0	0	0
Morrison/gray Tongue River silicified sediment	0	0	0	0	0	1	0	0	0	0	0
plate chalcedony	0	0	1	0	0	0	1	0	0	0	0
Bl'you Hills quartzite	0	1	0	3	1	23	0	0	1	9	0
fine grained quartzite	0	0	0	0	0	0	0	0	0	0	0
coarse quartzite	1	0	0	0	0	0	0	0	0	0	0
fossiliferous chert	0	0	0	3	0	0	0	1	0	0	0
chert	0	0	0	1	1	0	0	0	1	0	1
agate/chalcedony	0	0	0	8	1	9	1	1	0	3	0
basalt	0	0	0	0	0	0	0	0	0	0	0
scoria	0	0	1	0	0	0	0	0	0	0	0
diorite	0	0	0	0	0	0	0	0	1	0	0
quartz crystal	0	0	0	4	2	5	21	0	1	5	1

Table 7. (cont.).

LEVEL 2													
Site Grade													
1													
2													
3													
4													
secondary	tertiary	primary	secondary	tertiary	shatter	primary	secondary	tertiary	shatter	tertiary	shatter	secondary	secondary
Knife River flint	0	0	0	0	0	0	0	0	0	0	0	0	0
Morrison/gray Tongue River silicified sediment	1	0	0	0	0	0	0	0	0	0	0	0	0
plate chalcedony	0	0	0	1	0	1	0	0	0	0	0	0	0
Bijou Hills quartzite	1	1	0	16	0	0	1	4	0	0	0	0	0
fine grained quartzite	0	0	0	0	0	0	0	0	0	0	0	0	0
coarse quartzite	0	0	0	0	0	0	0	0	0	0	0	0	0
fossiliferous chert	0	0	0	2	0	1	0	0	0	0	0	0	0
chert	0	0	3	1	1	1	0	2	0	2	0	0	0
agate/chalcedony	0	0	0	2	7	0	0	1	0	0	0	1	1
basalt	1	0	0	0	0	0	0	0	0	0	0	0	0
scoria	0	0	0	0	0	0	0	0	0	0	0	0	0
diorite	0	0	0	0	0	0	0	0	0	0	0	0	0
quartz crystal	1	0	1	3	1	1	2	1	0	0	2	0	0

Table 7. (cont.).

	LEVEL 3				FEATURE 1				ASH LENS			
	Size Grade				Size Grade				Size Grade			
	2	3	3	4	2	3	4	2	3	4		
	secondary	tertiary	shatter	secondary	tertiary	unitemized	unitemized	unitemized	unitemized	unitemized	unitemized	unitemized
						flake(s)	flake(s)	flake(s)	flake(s)	flake(s)		
Knife River flint	0	0	0	0	0	0	0	1	0	0	0	0
Morrison/gray Tongue River silicified sediment	0	0	0	0	0	0	0	0	0	0	0	0
plate chalcodony	1	0	0	0	0	0	0	0	0	0	0	0
Si Joo Hill quartzite	1	1	0	0	3	0	1	2	2	2	20	
fine grained quartzite	0	0	0	0	0	0	0	0	0	2	8	
coarse quartzite	0	0	0	0	0	0	0	0	1	0	0	
fossiliferous chert	0	0	0	0	0	0	0	0	0	0	0	
chert	0	0	0	0	0	0	0	3	0	1	51	
agate/chalcodony	1	0	0	1	0	0	4	0	0	3	106	
basalt	0	0	0	0	0	0	0	0	0	0	0	
scoria	0	0	0	0	0	0	0	0	0	0	0	
diorite	0	0	0	0	0	0	0	0	0	0	0	
quartz crystal	0	0	1	0	1	1	1	2	0	0	25	

Table 8. Macrobotanical remains from Test Unit 5, 39LM204.

Provenience	Identification	Common Name	Part	Charred		Uncharred	
				whole	frag.	whole	frag.
Feature 1	<i>cf. Bouteloua</i>	Blue Grama	seed	1			
	<i>Chenopodium</i>	Goosefoot	seed	2			
	Chenopodiaceae	Goosefoot family	seed	1			
	<i>cf. Panicum</i>	Panicgrass	seed		2		
	<i>cf. Zea</i>	Corn	cob		500*		
	Unknown	Unknown	seed	2	1		
<hr/>							
T.U.5 2-4 M N Level 2	<i>Prunus americana</i>	Wild Plum	seed		1		
<hr/>							
T.U.5	<i>cf. Agropyron</i>	Wheatgrass	seed	1			
Ash Lens	<i>Chenopodium</i>	Goosefoot	seed			7	1
0-1 M N	<i>cf. Panicum</i>	Panicgrass	seed			2	
	<i>cf. Zea</i>	Corn	cob		30*		
	<i>Prunus americana</i>	Wild Plum	seed	1			
	<i>cf. Zea</i>	Corn	cob		1		
	Unknown	Unknown	seed	1			
<hr/>							
TOTAL				9	535*	9	1

* quantity estimated

were identified based on the texture of the charred material. As is apparent from Table 8 all of the macrobotanical remains identified from Feature 1 are charred.

One of the rim sherds collected from Feature 1 has been assigned to Iona Indented (Figure 43a). The second rim sherd collected from Feature 1 has been assigned to Cadotte Collared. This would indicate that the feature was in use during the Extended Coalescent/Post Contact Coalescent (Johnson 1980:56,67).

A single *Prunus americana* seed embedded in a clump of soil was collected during screening of the matrix from 2-4 m N, Level 2 (see Table 8). No other macrobotanical remains were present in the clump of soil surrounding this seed.

A basin shaped ash lens was encountered at 00-01 m N at a depth of 40 cm and extending to the base of the unit (see Figure 31). A photograph of the ash lens is presented as Figure 30b. This feature, which is suggested to represent the central hearth feature of an earthlodge, was excavated and the matrix bagged and returned to the Larson-Tibesara Associates laboratory where it was subjected to flotation. The cultural materials comprising the heavy fraction were subjected to the same analysis as employed for the cultural materials recovered from other areas of excavation. The results are summarized in Table 5. As is apparent from this table, all of the rim sherds identified to ware type from this feature are Iona Indented, indicating that this feature was in use during the Extended Coalescent/Post-Contact Coalescent (Figure 43b-c; Johnson 1980:67). A Late Prehistoric date is further indicated by the small triangular shaped projectile point recovered from the heavy fraction (see Figure 43d). A Bijou Hills quartzite biface from the ash lens is also illustrated in Figure 43e.

The light fraction contains both charred and uncharred seeds, and a number of charred corn cob fragments (see Table 8). In addition to the macrobotanical materials, seven small, uncharred bone fragments, a piece of lithic debitage and three pottery sherds were identified within the light fraction. It appears that the uncharred seeds and bone fragments are modern contaminants. The modern contaminants may be the result of prairie dog and other rodent activity.

Identifiable bone from this feature included *Bison bison*, *Antilocapra americana*, *Sylvilagus* sp., and *Canis latrans* (see Table 6). The large amount of *Sylvilagus* sp. bone from this feature in comparison with the amounts from other levels is probably the result of the fine mesh flotation screen used to process the matrix from this feature.

Two radiocarbon samples were submitted from the ash lens. One of these radiocarbon samples was processed by Beta Analytic of Coral Gables, Florida. As reported by Beta Analytic, the sample was of good initial quality and size and all analytical steps proceeded normally. The C-13 corrected age was calculated at 600 \pm 70 years B.P. (A.D. 1350; Beta-28146). This age places the feature within the Initial Middle Missouri or Initial Coalescent. Lehmer (1971:96-97) dates the Initial Middle Missouri occupation of the area between A.D. 900 and A.D. 1400.

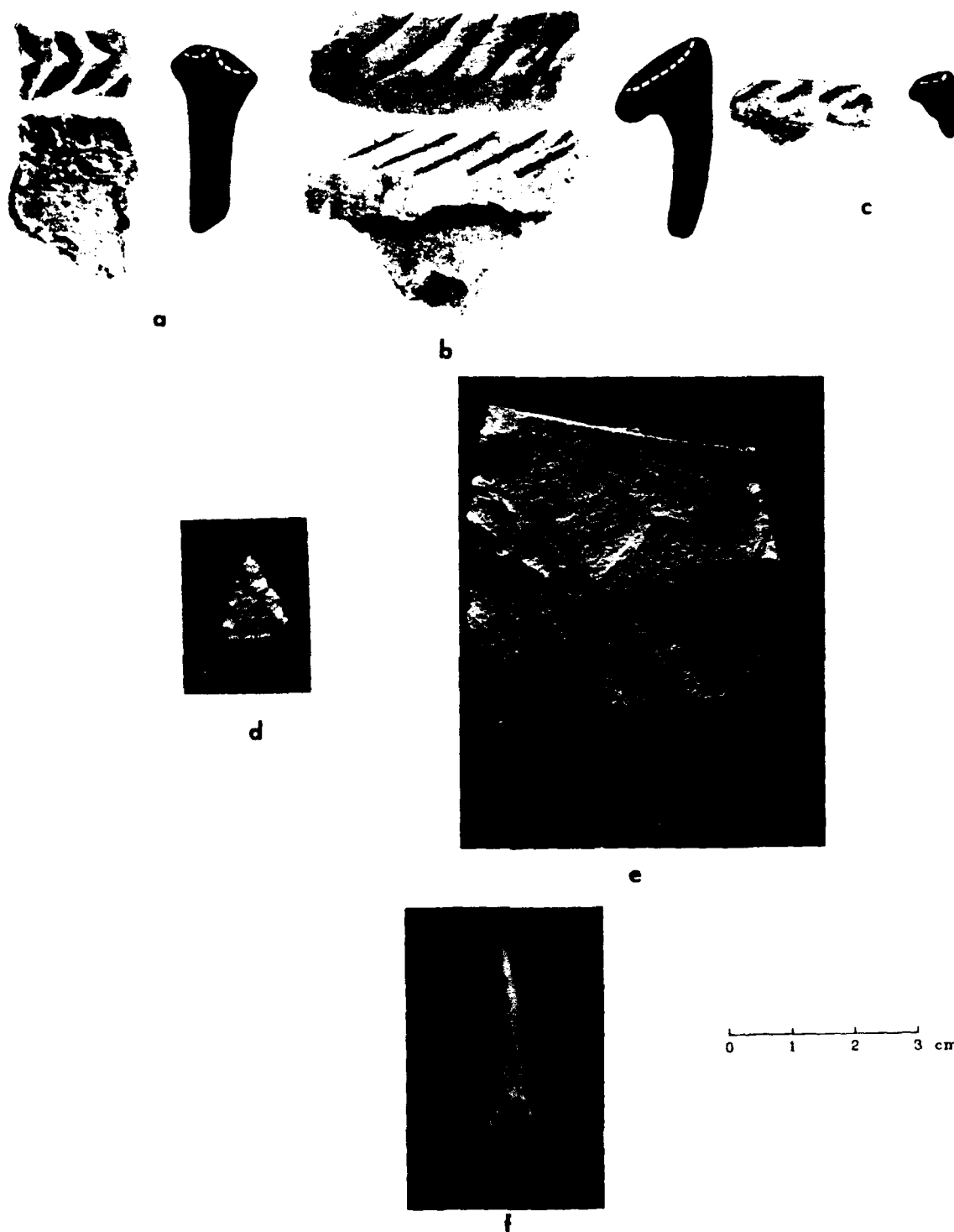


Figure 43. Iona Indented rim sherds (a-c), projectile point (d), biface fragment (e), and bone projectile point (f) from 39LM204.

This C-14 age would also be transitional with the Initial Coalescent, which Lehmer (1971:114) places between A.D. 1400 and A.D. 1550. Following Stuiver and Reimer (1986), this age equates to dendrochronologically calibrated ages of A.D. 1326, 1353, 1363, 1365, and 1389.

Since the rim sherds within the ash lens indicate that it dates from the Extended Coalescent/Post Contact Coalescent, a second sample from this same feature was submitted to Krueger Enterprises, Inc. of Cambridge, Massachusetts. After pretreatment, this sample was relatively small. The C-13 corrected age from this sample was calculated at 375 ± 150 C-14 years (A.D. 1575; GX-14513). Following Stuiver and Reimer (1986), this age equates to a dendrochronologically calibrated age of A.D. 1484.

The Krueger Enterprises C-14 age is in better agreement with the relative date provided by the ceramic assemblage. Lehmer estimates that the range of the Extended Coalescent variant is A.D. 1550 to A.D. 1675. Because of the large sigma, this C-14 age range is transitional with the Initial Coalescent and with the Post-Contact Coalescent variants. Based on the ceramics obtained from this feature, all of which have been assigned to Iona Indented, it would seem most likely that the feature was in use during the Extended Coalescent/Post-Contact Coalescent. However, it should be noted that no rim sherds of ware types identified exclusively with the Post-Contact Coalescent were collected at 39LM204.

A bone projectile point, similar to those illustrated by Lehmer (1971:146) from eighteenth century village sites assigned to the Post-Contact Coalescent was recovered from the back dirt from the north half of the unit after excavation was completed. This "long-tenoned" bone point is illustrated in Figure 43f.

With the exception of the ash lens, Level 3 (60-106 cm) was excavated in a gray clay loam with carbonate mottles (see Figure 31). Artifact density diminished from the north end to the south end of this unit within Level 3. Artifactual material was limited to a core, lithic debitage, a fire cracked rock, a fragment of daub, undecorated body sherds, decorated sherds, cut shell, and identifiable and unidentified bone fragments. Identifiable bone was limited to *Bison bison* or bone that compares favorably with *Bison bison* (see Table 6). As Table 5 indicates, the amount of cultural material diminished significantly in comparison to Level 2. No temporally diagnostic artifacts were recovered from this level.

Discussion

Excavations at Test Units 1, 2 and 3 indicate that integrity has been degraded in areas of the site which undergo seasonal inundation; areas where the site is subjected to wave action or where the soil is consistently saturated. Some information potential is retained in these areas, as demonstrated by the artifacts recovered from Test Unit 2. Materials of Euroamerican manufacture present in Test Unit 2 probably date to the occupation of the site area after the 1889 secession of

reservation lands.

Test Unit 5 appears to have been excavated within a lodge. The large ash lens probably represents the central hearth of the earthlodge. Feature 1 probably represents a secondary hearth, a common feature in Extended Coalescent earthlodges (Lehmer 1971:115). The density of artifacts within the test unit indicates that the lodge may have been abandoned and reused as a midden area.

Two radiocarbon samples were submitted from this ash lens. The first radiocarbon age indicates either an Initial Middle Missouri or an Initial Coalescent occupation. The second radiocarbon age obtained from the ash lens indicates a late Extended Coalescent date if the sigma is disregarded. Given the large sigma, the age range is transitional with both the Initial Coalescent and the Post-Contact Coalescent. Based on the ceramics obtained from this feature, it would seem most likely that the feature was in use during the Extended Coalescent/Post-Contact Coalescent. As previously noted, Wheeler Deep Trilled and Grey Cloud Horizontal Incised rim sherds, which are identified only with the Extended Coalescent, were recovered from Level 1 of Test Unit 5.

While the radiocarbon age dates the use of the ash lens, it is presumed that much of the artifact assemblage recovered from Test Unit 5 postdates the use of the ash lens. Some of the artifacts from this unit indicate that a Post-Contact Coalescent occupation of the site area may be present. The possible glass flake from Level 1 of this test unit may date within the range of the Post-Contact Coalescent to ca. 1880-1900. The "long tenoned" bone projectile point is identified with the Post-Contact Coalescent (Lehmer 1971:146). Based on the results of the test excavations, this possible Post-Contact Coalescent component can not be definitely attributed or described.

An extensive collection of faunal material resulted from the excavation at Test Unit 5. It is believed that much of the canid material originally identified by Dr. Anderson as *Canis latrans* or *Canis lupus* may, in fact, be *Canis familiaris* (i.e., domestic dog). A number of historic accounts are available that indicate both the utilization of *Canis familiaris* by the Arikara and that the size range of wolf, coyote and dog overlapped. An account by Maximilian (Wied-Nuwied 1906:396) indicate that the dogs at Fort Clark were wolf-like in their appearance. Brackenridge (1816:135), in reference to a visit he made to an Arikara village, states:

The dogs, of which each family has 30 or 40, pretended to make a show of fierceness, but on the least threat ran off. They are of different sizes and colors. A number are fattened on purpose to eat, others are used for drawing their baggage. It is nothing more than a domesticated wolf.

In terms of the overlapping size of wolves, coyotes and dogs, more recent work by zoologists suggests that:

Dogs present a different problem. Essentially they are small wolves, distinguishable from coyotes by many of the

wolf-like proportions of rostrum and brain case. . . .C. familiaris. . .often superficially resembles either of the other two [C. lupus and C. latrans] more than it does other familiaris. This means that the best combinations of characters to be used for purposes of identification vary depending on whether the animal in question is large and wolf-like or small and coyote-like [Lawrence and Bossert 1967:225].

The right mandible assigned to *Canis latrans* from Test Unit 5, 2-4 m N, Level 1 was subjected to measurements used by Lawrence (1968) to speciate *Canis* materials. Ratio I, latero-medial width of jaw below M1, and Ratio II, latero-medial at the base of the ascending ramus to length of M1, are given in Table 9 (measurements used by Lawrence for other ratios are not obtainable on the specimen from 39LM204). The ratios indicate that the right mandible from Test Unit 5 is within the range of *Canis familiaris*.

The fetal *Bison bison* and artiodactyl bone recovered from Test Unit 5, Levels 1 and 2 can not be accurately used to indicate seasonality of the midden. While bison usually have a peak calving season in late April and early May (e.g., Frison and Reher 1970), some births within the same herd will invariably take place both earlier and later than this birthing peak. With such a small sample of fetal bone from 39LM204, it is not possible to develop a reliable population curve and pick out those specimens which would thus be reliable indicators of seasonality. Additionally, the peak calving season will vary somewhat from year to year. If the fetal specimens from 39LM204 represent more than one year of hunting activities, stage of development comparisons between specimens may be quite meaningless.

National Register Eligibility

Test excavations at 39LM204 indicate that substantial intact subsurface deposits exist above the -5.5 contour line (see Figure 25). As indicated by the information obtained from Test Unit 5, these deposits include datable materials (both relative and absolute), information about subsistence patterns, and potentially intra-lodge and intrasite patterning information.

The site area that is consistently inundated appears to possess less integrity. These deposits have been affected by wave action, saturation of the soil and by the historic occupation of the area. This is indicated by the paucity of artifactual material recovered from Test Units 1 and 3 and the intermixture of prehistoric and historic artifacts in Test Unit 2. While inundation, wave action, and historic settlement have impacted and partially destroyed the prehistoric component in this area of the site, the prehistoric occupation may also have been less dense in the areas of the site south of the -5.5 m contour line.

The bulk of the prehistoric cultural material recovered from Test Units 1 and 2 was recovered from Level 1, with very small amounts

Table 9. Comparison of the *Canis* mandible from 39LM204 with other measured specimens.

Sample Size	Identification	Ratio I*	Ratio II**
20	<i>Canis lupus</i> (Lawrence 1968)	44.1-56.0	37.0-49.8
6	<i>Canis latrans</i> (Lawrence 1968; Wilson 1975)	42.8-44.8	36.3-39.6
10	<i>Canis familiaris</i> (Lawrence 1968; Wilson 1975)	53.9-59.4	48.5-56.5
1	<i>Canis familiaris</i> from the Hendrickson site, 32SN403 (Good et al. 1977)	54.9	49.8
1	<i>Canis</i> mandible from 39LM204, Catalog # 356	55.5	50.9

* latero-medial width of jaw below M_1 / crown length of M_1

** latero-medial width at anterior base of ascending ramus / crown length of M_1

39LM204 *Canis* specimen measurements:

M_1 crown length:	22.0 mm
latero-medial width below M_1 :	11.2 mm
latero-medial width at base of ascending ramus:	10.5 mm

recovered from Level 2. In Test Unit 1 only two unidentifiable bone fragments were recovered from Level 2. Although in a disturbed context, artifacts that provide relative dates for the both the prehistoric and historic components were recovered from Level 1 of this test unit.

Research Domain 1 (see Chapter One of this report) addresses the availability of information necessary to determine the age, extent and content of the components at each site. The excavation of a feature containing datable amounts of charcoal in Test Unit 5 and the large number of rim sherds recovered from Test Units 2 and 5 provided both absolute and relative markers of age. While some evidence of disturbance by rodents is present within Test Unit 5, its overall effect is believed to be negligible. Two radiocarbon samples were submitted from the ash lens in Test Unit 5. The first sample produced a radiocarbon age of 600 ± 70 (Beta 28146). A second radiocarbon age of 375 ± 150 (Geochron 14513) was also obtained from the ash lens in Test Unit 5. This age is in better agreement with the ceramic assemblage than the first radiocarbon age. Relative dates based on rim sherds recovered from Test Units 2 and 5 indicate that the site was occupied during the Extended Coalescent/Post-Contact Coalescent. The absence of Euroamerican trade goods and the presence of ceramic ware types that were in use only during the Extended Coalescent tend to indicate that the site dates to the Extended Coalescent.

Based on the results of the test excavation of Test Unit 5, artifactual material is present that provides information on site function, subsistence and lithic resource utilization. The area excavated as Test Unit 5 appears to be the physical remains of an earthlodge that was abandoned and subsequently reused as a midden area. An extensive amount of evidence is present pertaining to subsistence and lithic resource utilization at the time the earthlodge was in use as a habitation as well as during its subsequent reuse as a midden. The presence of this minimally disturbed earthlodge indicates that extensive subsurface deposits are present in this part of the site. Additional excavation would provide information applicable to intra and intersite comparisons.

Research Domain 2 pertains to establishing site extent. Existing published and unpublished reports documenting previous archeological work at 39LM204 were obtained from the South Dakota Archaeological Research Center and the Corps of Engineers. This information was reviewed and combined with the map produced for this project to delineate site boundaries. Because the maps and 1938 aerial photographs used for Cooper's 1954 project are unavailable, no definitive information is available to determine the amount of erosion that has taken place at 39LM204. Huscher's 1953 sketch map indicates that he was able to delineate the site only in an area west of the earthen dam and in an area east of the drainage between the 411.4 and 415.5 m (1350 and 1360 foot) contour lines. The latter area is currently inundated or forms beach deposits. Only the southern portion of the previously mentioned area was relocated. The map presented as Figure 25 represents the known site area at the time of the Larson-Tibesar investigations.

Research Domain 3 deals with culture change and adaptation. Site 39LM204 provides a data base suitable for comparison with other Extended Coalescent occupations. Information is also available that indicates that a comparison with Lower Loup sites would be worthwhile if a larger sample is obtained from 39LM204. This type of comparison would serve to illuminate ethnohistorical relationships that have been postulated by a number of authors including Dorsey (1904), Hoffman (1963), Grange (1968) and Lehmer (1971). The nature of this comparison is discussed below in relationship to South Dakota's management plan. This site also has the potential to provide information that would elucidate the processes of change at work during the Coalescent tradition. This type of comparison would be possible if a larger sample from excavation were obtained to provide information on the sequence of occupation at the village.

The *Management Plan for Archaeological Resources in South Dakota* recommends that the sample of radiocarbon dates be increased and that the range of location and size of Extended Coalescent villages be defined (Buechler 1984:51). Radiocarbon datable materials were recovered from Test Unit 5 and submitted for analysis. These dates are discussed within this report. In terms of defining the range of location and size of Extended Coalescent villages, work at 39LM204 indicates that a greater variation in size and possibly length of occupation may be present. At the time of the Larson-Tibesar Associates project, 39LM204 encompassed 135,479 square meters. We know that some site area has been lost as a result of wave action and inundation. However, the exact area of the site at the time of the 1954 River Basin Surveys excavations is not known. If copies of Cooper's maps and aerial photographs become available, site area prior to the impoundment of the Missouri River in this area might be calculated.

The size of the remaining area of 39LM204 contrasts with the 7150 square meters remaining at 39LM31 (see Chapter Seven). The size of 39LM204 and the apparent reuse of the area around Test Unit 5 implies an occupation of the village of more than seven years (based on the life expectancy of an earthlodge; Wilson 1934:372), or, alternatively, multiple occupations of the same area. While the relative size of 39LM204 may be the result of a longer term of occupation, it suggests a different orientation than the Extended Coalescent pattern of short term occupation at small villages suggested by Lehmer (1971:115). Further examination concerning the size and term of occupation at 39LM204 is perhaps one of the most significant contributions that further research at this site can make.

A third research question resulting from the *Management Plan for Archaeological Resources in South Dakota* results from Hoffman's (1963) hypothesis that the Extended Coalescent may represent both the Arikara and the Pawnee. Buechler (1984:51) suggests that detailed analyses of Extended Coalescent and Lower Loup ceramic assemblages would be necessary to examine this hypothesis. While the ceramic assemblage obtained from the test excavations at 39LM204 is not of sufficient extent to examine this research question in detail, certain observations can be made. Gross similarities are apparent between the rim sherds identified to ware type at 39LM204 and those identified by Grange (1968) for his Pawnee/Lower Loup sequence. This is particularly true of the

ware type discussed in this report as Cadotte Collared. This similarity may be a function of both temporal and spatial proximity. It does not necessarily suggest that the separation between the Pawnee and the Arikara had not yet taken place. It should be noted that a similarity between the ceramic assemblages at historic Pawnee and the Oacoma sites (see Chapters Five and Six) also exists. This similarity has been extensively analyzed by Kivett (1958) and Grange (1968:123-125). Further excavation of 39LM204 would provide an extensive ceramic sample that would be conducive to comparisons of this type.

Research Domain 4 pertains to assessing site significance. Based on 39LM204's potential to provide additional information related to defining the range of variation in size and length of Extended Coalescent occupations, subsistence patterns, intra-lodge and intra-site patterning, lithic resource utilization, ethnohistorical relationships, culture change and adaptation through time, this site is believed to be eligible for nomination to the National Register of Historic Places.

Recommendations

Substantial portions of this site are located above the area being degraded by wave action and seasonal inundation. Because the entire site area is located below the maximum flood pool elevation of Lake Francis Case, adequate steps need to be taken to ensure that the area of the site containing intact subsurface deposits is maintained. These steps may include bank stabilization if the water level is allowed to fluctuate above the 411.4 m (1350 foot) amsl contour line.

CHAPTER NINE SUMMARY

Dori M. Penny

Introduction

The 1988 Larson-Tibesar Associates, Inc. investigations included an intensive literature search, mapping, surface collection and test excavations at 39LM26, 39LM27, 39LM31 and 39LM204. The goal of these investigations was to determine the eligibility of each site for nomination to the National Register of Historic Places. Based on Criterion D of 36CFR60.6, 39LM26, 39LM31 and 39LM204 are believed to be eligible for nomination. Site 39LM27 is not considered to be eligible for nomination to the National Register of Historic Places. A summary of the recommendations for each site is provided below.

Recommendations

Previous investigations at 39LM26 have produced evidence of Woodland, Initial Coalescent, Extended Coalescent, Post-Contact Coalescent and historic components (Kay 1973; Winham and Lueck 1984; Kivett 1958). The 1988 Larson-Tibesar Associates investigations produced evidence of Extended Coalescent and Post-Contact Coalescent components. At the time of the 1988 investigations, Area 1 of 39LM26 was relatively unaffected by wave action. Area 2 is being subjected to damage through wave action. Appropriate measures should be taken to limit the damage to the site, particularly in Area 2. Site 39LM26 is believed to be eligible for nomination to the National Register of Historic Places.

Woodland, Post-Contact Coalescent and historic components have been recognized by previous investigators at 39LM27 (Kivett 1958; Kay 1973). Kivett (1958) believed that 39LM27, 39LM26 and an adjacent site, 39LM24, were all part of the same occupation. The relationship between 39LM27 and 39LM26 can no longer be demonstrated because of the lack of integrity at 39LM27. Site 39LM27 has been extensively disturbed by wave action, plowing and recreational activity. As a result, the integrity of this site has been substantially degraded. The site is not believed to be eligible for nomination to the National Register of Historic Places and no further work is recommended.

At 39LM31, previous investigators have noted an Extended Coalescent and a historic component (Husted n.d.; Smithsonian Institution, River Basin Surveys site forms and excavation forms completed by H. A. Huscher and Paul L. Cooper). The 1988 Larson-Tibesar Associates investigations demonstrated the presence of an Extended Coalescent component. The possibility of a Post-Contact Coalescent

component cannot be discounted since some of the temporally diagnostic artifacts from 39LM31 are known from both the Extended Coalescent and the Post-Contact Coalescent. Approximately 9,700 square meters of the site area have been lost to bank erosion since the 1953 Smithsonian Institution, River Basin Surveys excavations. Approximately 7150 square meters of 39LM31 remain. The cutbank at 39LM31 continues to erode rapidly. Immediate action should be taken to excavate the features along the cutbank and consideration should be given to a stabilization plan for the remainder of the site. The site is believed to be eligible for nomination to the National Register of Historic Places.

An Extended Coalescent and historic component had been recognized at 39LM204 prior to the 1988 Larson-Tibesar Associates investigations. The 1988 investigations produced evidence of an Extended Coalescent and a Post-Contact Coalescent component. Extensive subsurface cultural deposits are present at the site. Portions of the site are subjected to wave action and seasonal inundation, but an extensive zone of intact material remains in place, well back from the present beach line. The site is believed to be eligible for nomination to the National Register of Historic Places.

National Register Forms

Individual National Register of Historic Places forms for 39LM26, 39LM31 and 39LM204 have been prepared. These forms have been submitted to the Omaha District Corps of Engineers as part of this contract.

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